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THESIS

A QUANTITATIVE ANALYSIS OF THE IMPACT OF THE SUMMER TRAINING PROGRAM ON MIDSHIPMEN SERVICE SELECTING AT THE UNITED STATES NAVAL ACADEMY

by

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June 2005

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I. INTRODUCTION

A. BACKGROUND

Adolescents face two major decisions during the ages of 15 to 23. They must establish their identity and transition into adult life and then enter adult working life. The first decision involves whether to attend college or enter the workforce. The second decision involves selecting a career choice. By the time they enter the Academy, Midshipmen have made their first major decision—they decided to attend the Naval Academy and serve their country. While at the Naval Academy, midshipmen will spend four years preparing to become officers in the United States military. This time period also provides midshipmen the opportunity to learn about alternative career choices and ultimately decide which warfare community they will select. Midshipmen that are physically qualified must service select either Marine Corps or one of the Navy's unrestricted-line (URL) communities. The URL within the Navy includes aviation warfare, submarine warfare, surface warfare, and special warfare.

Few midshipmen come to the Naval Academy knowing which warfare community they wish to select. Indeed, the majority of midshipmen report being undecided on the first day of Plebe summer—Indoctrination Day. Throughout their four years of professional development at the Academy midshipmen will have different experiences that will persuade and influence their final decision on warfare community. However, their final career choice (i.e., final service selection) will be determined by a combination of factors including qualifications, service needs and "midshipmen desires." Each of these factors plays a major role in understanding how individuals arrive at their final career choices. While midshipmen qualifications and the "needs of the Navy" are defined by Naval Academy instructions (USNA INSTRUCTION 1531.51A; COMTMIDNINST 1301.1B), little is known about how midshipmen make their desires for service selection. While some research suggests that demographic, academic, and military factors appear to play a role in midshipmen's desires (Arcement, 1998; Gille, 2002; Bowers, 2002; Gonzalez, 2003; Wadle, 2004; Casals, 2004), only Casals (2004) examined the impact on service selection intention at the conclusion of the summer training experience. Further understanding the role of Summer Training Program on

career choice is important as it may affect service outcomes after the individual enters into active service.

The service assignment of midshipmen will determine their lifestyle for their military career. This assignment will impact midshipmen's personal and professional lives by determining their initial duty assignments, pay, promotion and their future in the military. Midshipmen must be made fully aware of this future lifestyle to ensure that they are satisfied with their future military service. Midshipmen need to have a good understanding of each warfare community to be able to select a suitable career that meets their personal desires and meets the needs of the Services. A good match between midshipmen and their future warfare communities can lead to increase in job performance and minimizing the stress associated with the school-to-work transition (Lent, Hacket, and Brown, 1999; Blustein, Juntunen, and Worthington, 2000; Phillips, Bluestein, Jobin-Davis, and White, 2002).

In an effort to both inform Midshipmen and meet the "needs of the Navy," the Academy instituted a Summer Training Program that is designed to familiarize midshipmen with the mission, tasks, and equipment within the various warfare communities. The program informs midshipmen about possible career choices by allowing them to experience the different warfare communities. Accordingly, the program has the potential to influence midshipmen in their future decisions concerning their military career. While the program is perceived to be valuable to Midshipmen, the impact of the program is not yet fully understood. Research is needed to further examine whether the program has an impact on Midshipmen's career choice.

B. PURPOSE AND RESEARCH QUESTIONS

The purpose of this study is to examine the impact of the Summer Training Cruise Program on service warfare community selection. Each summer midshipmen spend time in the Fleet during one of the three summer block periods to experience Navy and Marine Corps life. Midshipmen spend time on a submarine, surface ship, aviation squadron, or at Leatherneck. Through this process Midshipmen experience differences between service warfare communities and differences between cultures and climate within each

community from ship to ship or squadron to squadron. As such it is possible that the program may influence midshipmen's career choice.

This study attempts to answer the following questions: (1) What is the impact of various aspects of the Summer Training Programs on service warfare community selection by graduating midshipmen? (2) What is the impact of demographic, academic, military factors and summer training on service warfare community selection?

C. SCOPE AND BENEFITS OF THE STUDY

The scope of this study will include: (1) a literature review on the impact of persuasion on personal decisions; (2) a literature review of factors influencing service warfare community selection with particular focus on submarine warfare community selection; and (3) a review of the Naval Academy Summer Training Program. The data for this study was collected from the Office of Institutional Research, Planning, and Assessment (IR) and the Department of Professional Programs (ProDev) on the class of 2005.

This study will investigate the influence of summer training program on service selection based on the interaction and the familiarization the midshipmen get with the Fleet during the summer training cruises. If this study finds that there is a correlation between the summer training cruises and service selection then it will support one of the goals of the summer training program which is to enable midshipmen to make an informed decision about future career options. This study will also review the summer of 2004 End of Summer Training Survey taken by the midshipmen. This review will give feedback on the effectiveness of the summer training cruises conducted. This will give the Fleet the feedback on the effectiveness of the 2004 summer cruises.

D. ORGANIZATION OF THESIS

This thesis uses a quantitative analytic method to investigate the scope to which exposure to the Fleet during summer training cruises affect midshipmen service selection. Chapter II includes a literature review of how to use positive persuasion to meet both the "desires of the midshipmen" and the "needs of the Navy." Additionally, literature review

of the factors influencing service warfare community selection, and a review of the Naval Academy Summer Training Program are presented in Chapter II. Chapter III describes the data base and compares it to the rest of the Brigade of midshipmen. Chapter IV presents the statistical results from hierarchical regression analyses which to test the proposed hypotheses. The results of these analyses examine whether Summer Training has an impact on service warfare community selection independent of other potential influences. Chapter V presents the conclusions from the study and provides recommendations for further research.

II. BACKGROUND AND LITERATURE REVIEW

This chapter presents a review of the literature on job choice, with specific emphasis on research on job choice among college students. Part A reviews research examining factors influencing job choice. It includes a brief overview of theoretical models of job choice among college students. Part B presents a review of research on the factors influencing service warfare community selection at United States Naval Academy. Part C provides an overview of the summer training program, including its purpose and objectives. This section also presents a brief historical overview of the summer training program. Part D examines the role of persuasion on job choice. It examines how persuasion processes can be used to understand the impact of the summer training program on midshipmen's perception of specific warfare communities. The last section, part E provides a summary of the chapter.

A. FACTORS INFLUENCING JOB CHOICES

A considerable amount of research has examined the correlates and predictors of job choice (Adeymo, 2002). Research suggests that job choice is influenced by a variety of factors including demographic characteristics (Albion & Fogarty, 2002; Brief, Van Sell, & Aldag, 1979; Eagly, 1981; Eagly, 1978; Gottfredson, 1981; O'Brien & Fassinger, 1993; Ryan, Tracey, & Rounds, 1996) personality characteristics (Barrick, Mount, & Gupta, 2003; Costa, McCrae, & Holland, 1984; Eberhardt, & Muchinsky, 1982; Gottsfredson, Jones, & Holland, 1993; Holland, 1997), job knowledge and experience (Mortimer, Zimmer-Gembeck, & Holmes, 2002). Although a number of models have been developed to understand job choice, Holland's (1997) model of job choice is the most dominant in the field.

According to Holland (1997), individual job choice varies as a function of personality. An individual selects a job based on his/her personality preferences and dispositions. Holland proposed a hexagonal model that defines the relationship between the personality, the environment and their interactions. Holland (1997) postulates that there are six personality types which include realistic, investigative, artistic, social, enterprising, and conventional (RIASEC). The relationship between the personality types

can be represented in the form a hexagon (Figure 1). Holland (1997) posits that personality types that are in closure proximity within the model are more similar than types that are more distant. For example, Social and Enterprising are close together in Figure 1; therefore, they resemble one another. In contrast Social and Realistic types are far apart; therefore, they are very different. Conventional and Social types are at an intermediate degree of resemblance.

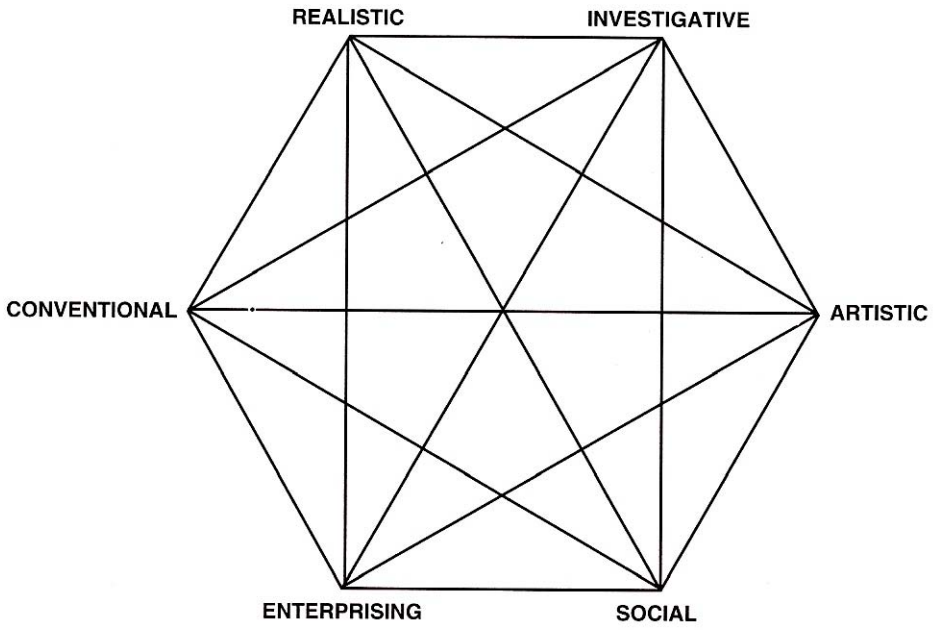


Figure 1. Holland's (1997) hexagonal modal of vocational interest. (From: Holland, 1997)

A background principle for Holland's theory is that the choice of a vocation is an expression of personality. Thus the assumption can be made that a midshipman's choice of academic major and choice of initial service selection is an expression of their personality. And even though gender, ethnicity, physical assets, and intelligence are incorporated indirectly in the theory, Holland states "direct assessment of these variables are also required to secure more positive applications (pg. 13)."

A number of studies have reported that gender, ethnicity, and socioeconomic status influence job choice (Brief, Van Sell, & Aldag, 1979; Eagly, 1981; Eagly, 1978;

Gottfredson, 1981; Ryan, Tracey, & Rounds, 1996). Women have been perceived in the past to be easier to influence then men. Gender influences vocational choice based on sex-roles within the society. People acquire perceptions of job-self compatibility, especially for gender, which limits a person's job search in adolescence (Gottfredson, 1981). This perception though, has been widely challenged in the past three decades. Eagly (1981) found that while women tend to be more susceptible to influence than men, the differences are relatively small. She argues that differences found prior to 1970 could be attributed to the differences in stereotypical roles by the gender (Eagly, 1978). But these stereotypical roles have been diminished over the years reducing gender role attitudes. Albion and Fogarty (2002) found that while gender was not a significant predictor of career decision making, masculinity scores were significantly correlated with career decision making. Though, when they controlled for personality factors in the models, masculinity was then found to be insignificant in all but one of the correlations. Leading them to the conclusion, that gender-type variables were likely to add little to the model.

Gottfredson (1981) reported similar results with regard to job-self compatibility. Gottfredson (1981) found that people acquire perceptions of job-self compatibility that are consistent with their gender. Gottfredson (1981) also postulates a similar relationship for ethnicity. That is, people will acquire perceptions of job-self compatibility that are consistent with their ethnicity (Gottfredson, 1981). For example, a white male will acquire job-self compatibility with a service community that consists predominantly of white males, where a minority will not acquire the job-self compatibility with that predominantly white community. Other research examining differences in interest inventories by gender, culture, and ethnicity have found that the largest mean differences are reported for gender and not for ethnicity (Holland, 1997). Thus, women have more similar interest in vocational choice to other women in others races or cultures than with men of the same race or culture. However, research conducted with Naval Academy midshipmen has reported larger correlation between ethnicity and service community selection (Casals, 2004; Bowers, 2002), discussed later in this chapter.

Research examining the role of socioeconomic status (SES) and ethnicity has found significant differences in job choice. Ryan, Tracey, and Rounds (1996) found that

the vocational aptitudes of African Americans by SES were better described by the RIASEC model for low-SES group than for the high-SES group. There was no difference found in the RIASEC structure between low- and high-SES Whites. The study also found that in general, the RIASEC model was more descriptive of White females than White males.

Mortimer, Zimmer-Gembeck, and Holmes (2002) warn of a recent societal change that has changed the career decision making process during the transition to adulthood. Mortimer et al. (2002) found more and more students are coming to college undecided on their future career. In their study they found that only eight percent of their sample had made a firm occupational decision while in high school. Sixteen percent had made at least one change in their occupational goals and 28 percent had made a recent change in their occupational goals. They also found that 35 percent of the respondents failed to provide an answer for the question regarding occupational choice. They hypothesized that the no response may result from the absence of any true occupational aspirations.

Other research has examined the role of academic performance and academic major on job choice (Barak, 1981; O'Brien & Fassinger, 1993; Pascarella & Terenzinni, 1991). Barak research found that perceived ability had a higher correlation with career decision making then actual interest. Therefore a student's cumulative academic quality point rating (CAQPR), which is based on academic courses and is the equivalent to the grade point average, will be more significant than their actual interest. Research also shows that vocational interests expressed during the college years are significantly correlated with later membership in those occupations (Bartling & Hood, 1981; Dawis, 1991). Bartling and Hood's study supported the superiority of expressed choice over measured interest. The findings were even more accurate predictor for women then men. In sum, the research on job choice indicates that vocational interests are predictive of occupational membership, occupational tenure and change (Dawis, 1991).

B. FACTORS INFLUENCING SERVICE WARFARE COMMUNITY SELECTION AMOUNG USNA MIDSHIPMEN

1. Demographic Factors

a. Gender

Previous research has shown that there is a correlation between gender and service warfare community selection at the Naval Academy (Casals, 2004; Gille, 2002; Bowers, 2002; Acrement, 1998). Casals (2004) estimated three logit regression models to determine service selection preferences for the first and second class midshipmen of the classes of 2002 to 2004. His first logit model's dependent variable was surface warfare preference. For surface warfare, gender was found to be significant and had the largest Beta coefficient and the largest marginal effect of any variable. He concluded that females are more likely to service select surface warfare than their male counterparts. The second model analyzed aviation warfare preference. Casals' model showed that gender was not significant in determining aviation warfare preference. His third model's dependent variable was submarine warfare preference. Since female are not allowed to service select the submarine warfare community, gender was left out of this model.

Gille (2002) performed logit regressions to try and determine the influence Company Officers had on Midshipmen service selection for the graduating classes of 1993 through 2001. In his regression, he also found gender to be significant. He found that females were more likely to service select surface warfare than males. He also found the same results as Casals (2004) in that gender was not found to be significant in midshipmen service selecting the aviation warfare community. Unlike Casals, Gille also ran a logit regression on USMC service preference and found that gender was not significant in the model. For the same reasons Casals omitted gender in the submarine model, Gille also left gender out of the regression.

Bowers (2002) tried to predict a Midshipman's service selection by using the Myers-Briggs Type Indicator (MBTI) for the graduating classes of 1998-2001. She analyzed the Midshipman's MBTI profile along with other demographic variables in a series of six regressions. Even though she determined that MBTI scores had marginal results for predicting service assignment, she concluded that gender along with other

demographic variables and cognitive factors were the best predictors of service assignment.

Arcement (1998) examined the correlation between academic major and service selection at the Naval Academy. He performed a logistic regression on the graduating class of 1997 and 1998, specifically those midshipmen that received their first choice during service selection. In his regression he included academic major, gender, Military Order of Merit, and Academic Order of Merit as independent variables for service selection. Gender was found to be significant for service selecting Aviation, Marine Corps, and Surface Warfare for the classes studied.

b. Ethnicity

Casals (2004) used the same logit models as described above for gender and found that there is a significantly higher probability that minorities will select the surface warfare community than non-minorities. In his aviation community preference model, minority status was also found to be significant. Minority status had the largest Beta coefficient for the model and he concluded that minorities were less likely to service select the aviation warfare community then midshipmen with non-minority status. Minority status was found to be insignificant in his third model for the submarine warfare service preference.

Bowers' (2002) results suggest that one of the best predictors for service assignment when analyzing both males and females together, or when analyzing just female midshipmen, is minority status. Minority status had the highest positive coefficient in determining female midshipmen service assignment when comparing Surface Warfare to Marine Corps and Aviation selection. The high positive coefficient means that female minority midshipmen were more likely to service select Surface Warfare then the other two communities. When comparing both female and male midshipmen, minority status had the highest positive coefficient when comparing midshipmen that either went Surface Warfare or Submarine Warfare to Marine Corps or Aviation.

2. Academic Factors

a. CAQPR

Cumulative academic quality point rating (CAQPR) is based on academic courses and is the equivalent to the grade point average (GPA) system found in most universities. There has been a substantial amount of research trying to correlate the relationship between CAQPR and service selection at the Naval Academy (Casals, 2004; Wadle, 2004; Gonzalez, 2003; Gille, 2002; Bowers, 2002; Acrement, 1998). However, the range of significance varied among the studies. Some found no significance at all of CAQPR while other studies found that CAQPR was significant but disagreed as to which community was affected.

Acrement (1998) found that "choice of naval service is not significantly related to CAQPR (pp. 39)" while the other studies found that CAQPR was significant. Bowers (2002) used Order of Merit (OOM) which is a combination of CAQPR and CMQPR (cumulative military quality point rating) in her study. She found that OOM had the largest correlation when comparing males from the Surface Warfare community to the Submarine Warfare community selection. She also found that OOM had that second largest correlation, just behind minority status, for females when comparing Surface Warfare service selection to either Marine Corps or Aviation service selection.

Gille (2002) used a logit regression model and found that CAQPR was significant in all the service selection choices. The largest marginal effect was in the Submarine Warfare service selection; it showed a positive correlation with a Beta coefficient of 2.6, suggesting that midshipmen with higher CAQPR had an increased likelihood of service selecting Submarines. Midshipmen that were service selecting Aviation also had a positive correlation with a Beta coefficient of 0.4, determing that midshipmen with higher CAQPR were more likely to service select Aviation, but not significant as Submarines. Gille also found a negative correlation between CAQPR and service selecting Surface Warfare or Marine Corps. Both of these communities had a negative Beta coefficient, -0.68 and -1.58, respectively. Leading to the conclusion, that midshipmen with lower CAQPR were more likely to service select Surface Warfare or Marine Corps than the other two communities.

Gonzalez (2003) found in his study for Aviation service selection that "CAQPR was significant ($P < .05$). Results show that increasing a candidate's CAQPR by one unit (1.0) results in an increased likelihood of selection by four percent. Since CAQPR varies by 1.0 to 4.0, the effect of a fairly large change in CAQPR on the selection probability is quite small" (pg. 52). This finding seems to be consistent whenever CAQPR is found to be significant. The actual marginal effect on service selection for a reasonable change in CAQPR is fairly small.

Wadle's (2004) study discovered that there was a negative relationship between ACQPR and service selecting Marine Corps. Wadle and Gille agree that Marine Corps graduates tended to have a below average CAQPR, but that there were other traits the Marine Corps selection committee were looking at and were willing to overlook CAQPR, as long as the Midshipmen earned the minimal CAQPR of 2.0 that is required to graduate.

Casals' (2004) study disagreed with the previous studies and finds that CAQPR is insignificant to service selecting Surface Warfare or Aviation. Casals does find CAQPR to be significant, except for a positive marginal effect for Submarine service selection. But as stated earlier, a rise in CAQPR of one unit would result in increasing the likelihood of service selecting Submarines by only 1.8 percent. Therefore, even though CAQPR is found to be significant in reality it only has a small effect on service selection.

b. Technical Major

The majors at the Academy are divided into three major groupings. Group one is similar to the College of Engineering for most civilian universities. Group two is the combination of the Math and Science departments. And group three is the colleges of the social sciences and humanities. Technical majors are considered any major within group one or group two and non-technical majors are the majors in group three. There have been several studies between the relationship between college major and occupational choice (Holland, 1996; Hogan, 1986) and college major and service selection at the Naval Academy (Casals, 2004; Wadle, 2004; Gonzalez, 2003; Gille, 2002; Bowers, 2002; Acrement, 1998). While the Acrement study focused on the relationship between academic majors at the Naval Academy and service community

selection, all the other studies used major group as an independent variable in their models.

For Submarine Warfare service selection, both group one and group two majors were found to be significant and positive when compared to group three majors (Casals, 2004; Gille, 2002; Acrement, 1998). Casals' (2004) study, group three majors were 12.6 percent less likely to service select Submarines than group one majors. Even though the magnitude varies between the studies, both Acrement and Gille agree with Casals, showing that technical majors were more likely to service select Submarines than non-technical majors. Some of this can be accounted for by the heavy technical bias of the submarine screening done by Naval Reactors, which makes it more difficult for those with a non-technical major to even screen for Submarine Warfare.

Studies have shown that non-technical majors are more likely to service select Surface Warfare than technical majors (Casals, 2004; Bowers, 2002; Acrement, 1998). Casals (2004) found that non-technical majors were seven percent more likely to service select Surface Warfare than technical majors. Acrement (1998) found that group two majors where less likely to service select Surface Warfare. On the other hand Casals found that group two majors were more likely to service select Surface Warfare. Both studies, however found that non-technical majors were more likely to service select Surface Warfare than technical majors. The differences in the two studies may be accounted for through the differences in the test group.

Several studies have found that non-technical majors have a higher probability to service select Marine Corps (Wadle, 2004; Gille, 2002; Bowers, 2002; Acrement, 1998). Wadle (2004) concluded that even though "statements from the selection panel members indicate that a midshipman's Academic Major is not considered in his or her selection. This leads us to speculate that either the members of the selection panel actually value Humanities and Social Science Majors, or that the members of the selection panel are indifferent to a midshipman's Academic Major and the midshipmen who study Group III Majors are potentially self-selecting the Marine Corps" (Wadle, 2004, pp. 81).

Gonzalez's (2003) study showed that technical majors were about three percent less likely to service select Aviation than non-technical majors. Although when he separated the Pilots and the NFOs (Naval Flight Officers), academic majors was insignificant for Pilots. This leads to the conclusion that non-technical majors are service selecting NFO's at an even higher percentage.

c. Varsity Athlete

Only three studies have considered varsity athlete status when analyzing for service selection at the Naval Academy (Casals, 2004; Wadle, 2004; Gonzalez, 2003). Wadle found that varsity letter winners were only significant when examining midshipmen with two or fewer stripes for service selecting Marine Corps. Gonzalez determined that varsity athlete letter winners were found insignificant in correlating to service selecting Aviation. Finally, Casals found that varsity athletes were insignificant in correlating to Submarine or Surface Warfare, but found that in his study midshipmen who were varsity athlete letter winners were eight percent less likely to service select Aviation than non-letter winners.

3. Military Factors

a. CMQPR

Cumulative military quality point rating (CMQPR) is the midshipman's rating based on the following areas; physical education, athletic performance, military performance, military conduct, and grades received from professional development courses. Acrement (1998) and Gonzalez (2003) both found in their studies that CMQPR was insignificant in determining service assignment at the Naval Academy. However, Gille (2002) and Wadle (2004) found a high correlation with CMQPR and service selecting the Marine Corps. For service selecting Marine Corps, Wadle stated that "the best predictor of Marine Corps is CMQPR" (pp. 78). Similar to his findings with the Marine Corps, Gille also found that Aviation had a positive correlation with CMQPR and service selection. Submarine Warfare and Surface Warfare service selection both had a negative correlation with CMQPR according to Gille's results.

b. Prior Enlisted Service

Wadle (2004) and Gonzalez (2003) both examined the prior military service relationship and service selection. Wadle found that being a prior enlisted Marine

had the second highest correlation with service selecting Marine Corps. Likewise, Gonzalez's results indicated that midshipmen that were prior enlisted were six percent less likely to service select Aviation (Pilot and NFO) and four percent less likely to service select Pilot.

4. Initial Service Selection and Summer Training Program

a. Initial Service Selection

Midshipmen indicate their initial service selection preferences in the spring of their second class year. The initial service selection is the first time the midshipmen attitudes on community preference will be directly observed by the Academy. The midshipmen are encouraged to complete up to six choices for service selection. This initial service selection is a culmination of the feelings the midshipmen have toward their compatibility with each community based on their interactions with those communities at this point. Some of the midshipmen have strong feelings towards their service selection choices at that time, while others are still forming their attitudes. The midshipmen's initial service selection is highly correlated to what STP they will choose.

Attitudes are never directly observed, but unless they are admitted, through interference, as real and substantial ingredients in human nature, it becomes impossible to account satisfactory either for the consistency of any individual's behavior, or for the stability of any society (Allport, 1935, p. 839). There are many definitions on attitudes. Learning theorists view attitudes as an implicit response that mediates the impact of a stimulus on behavior (Doob, 1947). Whereas contemporary theorists define attitude as a more cognitive term (Judd, Drake, Drowning, & Krosnick, 1991). But there is common ground on how most theorists view attitudes. Theorists believe that attitudes are a learned, enduring, and affective evaluation of an object that exerts a directive impact on social behavior (Perloff, 1993).

Attitudes are learned throughout life through interactions with an individual's surrounding environment. There are some theorists that have argued that attitudes are also determined through genetic factors (McGuire, 1985; Schacter, 1982). But if genetics have any influence on attitudes, it is considered small and the majority of

the influence comes from the surrounding environment. Attitudes are enduring, provide a perception, and guide our interpretations of social objects (Fazio, 1989; Pratkanis, 1989).

It is attitudes that have a direct impact on behavior. This study focuses on the direct behavior of the midshipmen toward service selection preference, but there is a distinction between behavior and attitude. While attitudes guide and influence behavior, it is understood that attitudes do not always predict behavior. And it is the inconsistency between the attitude and behavior that is assumed hypocritical. The relationship between attitudes and behavior is very important to the study of persuasion.

There are three factors that determine the strength of the attitude-behavior relationship (Perloff, 1993). Each individual is placed in different situations that will affect the strength of the attitude-behavior relationship. People are affected differently based on whether they are in a group or acting as individuals. As individuals it is more likely that ones behavior will reflect their attitude. But if the individual is acting within a group there are outside influences that will weaken the attitude-to-behavior relationship and may cause inconsistency between the two. The second factor is the self-monitoring and direct experience done by an individual. Snyder (1987) described self-monitoring as "the extent to which people monitor the public appearances of self they display in a social situations and interpersonal relationships". Also, where high self-monitors are constantly aware of the social setting and what is the appropriate behavior for that social setting. There is also a stronger relationship between attitude and behavior for someone whose attitude is based on a direct experience (Fazio & Zanna, 1981). This finding is a major factor for this study. If a midshipman has a favorable experience on a summer cruise than they will have a stronger relationship between attitude and behavior, and will be more likely to select that warfare community, instead of if they were favorable toward a warfare community but never had a direct exposure to that community. The last factor that determines the strength of attitude-behavior relationship is measurement issues. This addresses the difficulty and differences in measuring attitudes and behavior which is not clearly or easily measurable.

b. Summer Training Program

The Summer Training Program provides the midshipmen with direct exposure to each community. This direct exposure will help strengthen the relationship

between the attitude and the behavior. But, not only does direct exposure strengthen the relationship between attitude and behavior as discussed by Fazio & Zanna (1981), but it also helps form the attitude. Mere exposure theorists believe that repeated exposure provide positive influences on attitudes when certain conditions are met. Repetition exerts a stronger effect on attitudes when the target stimulus is presented in a heterogeneous exposure (Bornstein, 1989). This is why the Third-class summer cruise, PROTRAMID (Professional Training for Midshipmen), does not provide a strong influence on any particular warfare community, but rather builds familiarization with several communities.

Mere exposure effects are also enhanced when it is conducted over brief exposure periods. The exposure is also enhanced when the stimuli is complex. As the exposure continues, a simple stimuli begins to bore the participants where a more complex stimuli continues to gain attractiveness. Another factor is the frequency of exposure. In general, the more the exposure, the more attractive the stimulus becomes. There comes a point where burnout begins and therefore reduces the positive effects of the stimuli. The last exposure factor is the familiarity of the stimulus. Exposure to a stimulus will not affect the attitude if there is already familiarity to the stimulus. The best scenario to produce a positive attitude is a brief, repeated exposure to a complex yet heterogeneous stimulus and stopping the exposure prior to burnout occurring.

C. SUMMER TRAINING PROGRAM

1. History

Each year, Fleet and Marine Corps training programs provide superb training for midshipmen. Midshipmen begin indoctrination into the fleet the summer of their third-class year and continue through the first-class summer. The experience starts with an exposure to each warfare community during PROTRAMID, then provides the midshipmen with a fleet experience with enlisted and officers during their second-class and first-class years respectively.

First-class midshipmen participate in a variety of programs during their last summer as a midshipman. One option for summer training includes a three week surface, submarine, or aviation fleet cruise, the second option is a four-week cruise at Mini-Buds, EOD, FOREX, or French Training Cruise, the third option is an Introductory Flight Screening (IFS), and the last option is a four week Leatherneck program at The Basic School (TBS) in Quantico, Virginia. Second-class midshipmen have the option of participating in a three week enlisted submarine or surface fleet cruise. Finally, the third-class midshipmen participate in PROTRAMID. PROTRAMID is a four week exposure to the aviation, surface, submarine warfare and the Marine Corps. A week is spent with each warfare community. There are several other opportunities for the midshipmen during their summer training blocks, but these are the only options this study will focus on. Other midshipmen summer training opportunities include sailing detail, internships, Naval Academy Preparatory School (NAPS) detail, weapons detail, Plebe detail, summer seminar, and summer school.

The U.S. Navy ships are tasked with the training, professional, and leadership development of midshipmen. The ships are responsible for providing the practical knowledge of the operational naval forces. The ships designate a career motivated Midshipmen Training Officer (MTO) who is a warfare-qualified junior officer. The MTO is accessible to the midshipmen throughout their time on their training cruise. The Commanding Officer will ensure that the midshipmen are fully integrated into the shipboard organization and assigned specific duties to permit active participation in the actual operations and administration within the unit.

In addition to the MTO, a running-mate will be assigned to the first-class and second-class midshipmen. The first-class midshipmen will be assigned a running-mate that is a highly-motivated Lieutenant or Lieutenant junior grade who is warfare qualified. The running-mates will assist the midshipmen in integrating into the wardroom and their future perspective roles as junior officers. The second-class midshipmen will be assigned to a highly-motivated, warfare-qualified third or second-class petty officer. It is imperative that all running-mates have positive attitude and set a good example for the midshipmen.

2. Purpose and Objectives

The objective of the summer training program is to further the professional development of midshipmen, to familiarize them with operational naval forces, reinforce their academic-year programs, instill a sense of pride, and further incline them toward careers in the Navy and Marine Corps. The major concept for the midshipmen summer training program is to introduce midshipmen to the roles of junior officers and enlisted personnel and to emphasize midshipman exposure to the fleet at the point of training when it will be most meaningful.

The third-class summer training program, PROTRAMID, has the following objectives. The first objective is to enable the midshipmen to make an informed decision about future career options. The second objective is to familiarize midshipmen with the mission, tasks, and equipment within the various warfare communities. The third objective is to introduce midshipmen to the career development ladder within each warfare area. The forth objective is to emphasize the importance of military customs, courtesies, smartness, and discipline. The last objective is to reinforce leadership training through practical application of basic leadership.

The second-class summer cruise has several objectives. The first objective is to familiarize the midshipmen with life at sea aboard a U.S. Naval vessel. Second objective is to familiarize midshipmen with shipboard organization, ship systems, evolutions, and standard naval safety precautions at-sea and in-port. Third objective is to develop an appreciation for the duties and responsibilities of enlisted personnel, as well as the living and working conditions of enlisted personnel onboard ship. The forth objective is to gain a first-hand experience in a ship's workcenter, so as to understand the function of a

workcenter and the relationship between the division officer and his/her subordinates. The last objective is to emphasize the importance of military customs, courtesies, smartness, and discipline.

The first-class summer cruise has the following objectives. First objective is to prepare midshipmen for commissioned service through active participation in the duties and responsibilities of a junior officer. The second objective is to afford midshipmen additional time at sea. The third objective is to further the development of officer qualities and leadership skills. The fourth objective is to familiarize midshipmen with warfare systems. And the final objective is to reemphasize the importance of military customs, courtesies, smartness, and discipline.

D. PERSUASION DURING SUMMER TRAINING PROGRAM

1. Defining Persuasion

This study is focusing on the summer training cruises ability to persuade the attitudes of the Midshipmen at the United States Naval Academy in their desire at service selection. There have been several studies in recent years trying to better understand the influences that contribute to the desired service selection of the Midshipmen. Casals' 2004 study looked at the influence summer training programs have on the vocational development of the Midshipmen. This study is expanding on previous studies, to include what effects persuasion has on influencing service selection.

There have been a number of definitions of persuasion over the years. The most prevalent definitions from recent scholars are:

(1) A communication processes in which the communicator seeks to elicit a desired response from his receiver (Andersen, 1971, p.6).

(2) That activity in which speaker and listener are conjoined and in which the speaker consciously attempts to influence the behavior of the listener by transmitting audible and visible symbolic cues (Scheidel, 1967, p.1).

(3) A conscious attempt by one individual to change the attitudes, beliefs, or behavior of another individual or group of individuals through the transmission of some message (Bettinghaus & Cody, 1987, p.3).

(4) A Symbolic activity whose purpose is to effect the internalization or voluntary acceptance of new cognitive states or patterns of overt behavior through the exchange of messages (Smith, 1982, p.7).

(5) A successful intentional effort at influencing another's mental state through communication in a circumstance in which the persuadee has some measure of freedom (O'Keefe, 1990, p.17).

There are several definitions used by scholars, but there are some key elements to each definition used. They all describe persuasion as an activity or process which attempts to induce change in beliefs, attitudes, or behavior through a transmission of a message in which the person being persuaded has some freedom of choice. Persuasion is a dynamic activity which is more complicated than just a message sent between a sender and receiver. Persuasion will influence attitudes and it is those attitudes that may affect behavior. However, scholars disagree as to whether there must be a change in behavior to assess whether persuasion is effective. O'Keefe (1990) argues that persuasion is not accomplished if the behavior does not change (p.15). Yet, others view persuasion as a process-oriented approach. In the process-oriented approach, persuasion can be successful if it changes attitude, but it does not necessarily need to result in change behavior.

Persuasion is not the same as coercion, brainwashing, or manipulation. Persuasion may influence midshipmen but midshipmen still retain the freedom of choice to select a warfare community. Coercion, on the other hand removes perceptions of free will in order to achieve persuasion effects. If the recipients feel that they have no choice but to comply, then the influence is deemed coercion (Smith, 1982, p.10). From this perspective then the messages given to midshipmen attending summer training cruises reflect persuasive attempts to influence career choice because the midshipmen still maintain the freedom of choice for service selection.

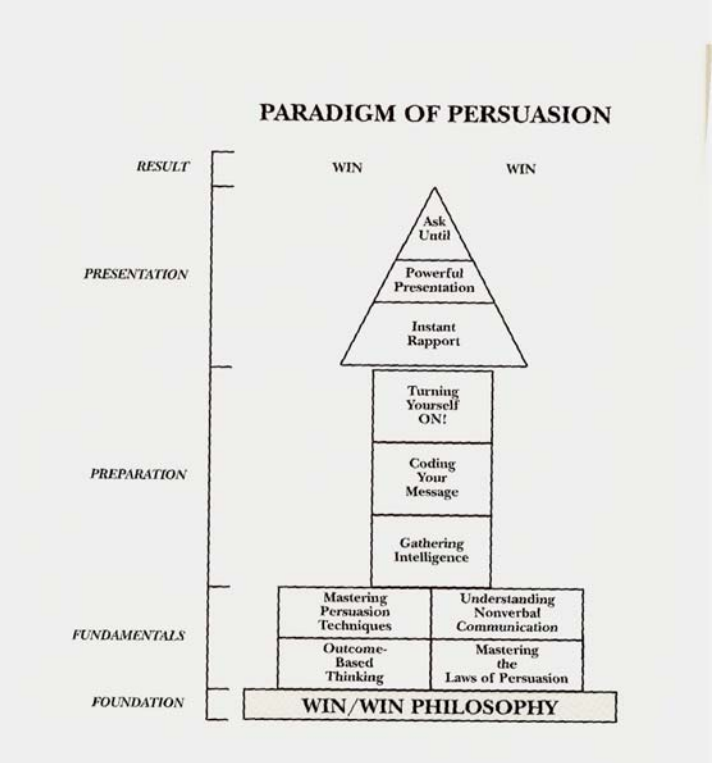
2. Ethics of Persuasion

For years there have been questions if it is ethical to use persuasion. Yet, persuasion is commonly used in society throughout our everyday lives. From commercials, politicians, lawyers, to kids, there is a constant effort to persuade others to another type of behavior. However, is it immoral to influence another person's attitude that may be in the sender's best interest, but not in the receiver's best interest. Or is it immoral for the sender to change how the receiver perceives the behavior, to make the receiver believe that the behavior is now in their best interest? This is why it is important for the sender to ensure they are not being manipulative and delivering only the facts and make certain that the receiver is given all the facts to allow the most informed decision. It is by using Hogan's (1996) Win-Win philosophy when approaching service selection that the best moral outcome will be attained.

3. Hogan's Win-Win Philosophy

Hogan's (1996) Win-Win philosophy allows the best situation. Both the service selection process and the midshipmen both win in the outcome. Although Win-Win is an ideal philosophy, it allows the greatest approach to meeting both the "needs of the Navy" wand the "desires of the midshipmen". The "Win-Win" philosophy is best used when the persuader has mastered the paradigm of persuasion.

Figure 2. Paradigm of Persuasion Win-Win Philosophy (From: Hogan, 1996)



According to Hogan (1997) the first fundamental principle of persuasion is to understand outcome-base thinking. Outcome-based thinking allows you to understand the individual's current state of mind and the person's desired final state of mind. By knowing both of these, the persuader can influence recipients by showing them how to get there. The first step to persuade others is by understanding the Outcome-based thinking. Outcome-based thinking starts by visualizing the precise outcome before beginning the process. Goals must be established and considered throughout the process. In Outcome-Based Thinking, the following questions must be answered prior to beginning the process:

(1) What precisely do I want out of the process?

(2) What does the other person want? If I don't know, what is he likely to want?

(3) What is the least I will accept out of the process?

(4) What problems could come up in the process?

(5) How will I deal with each one and, if possible, use the problem as a benefit for the other person?

(6) How will I bring the process to a conclusion?

This persuasion process is always used either consciously or not by master persuaders (Hogan, 1996).

The second Fundamental of principle, is to mastering the laws of persuasion. Hogan posits nine basic laws of persuasion which include:

(1) Law of Reciprocity – When someone gives you something of perceived value, you immediately respond with the desire to give something back.

(2) Law of Contrast – When two items are relatively different from each other, we will see them as more different if placed close together in time or space.

(3) Law of Friends – When someone asks you to do something and you perceive that person to have your best interests in mind, and/or you would like them to have your best interest in mind, you are strongly motivated to fulfill the request.

(4) Law of Expectancy – When someone whom you believe in or respect expects you to perform a task or produce a certain result, you will tend to fulfill their expectation whether positive or negative.

(5) Law of Association – We tend to like products, services, or ideas that are endorsed by other people we like or respect.

(6) Law of Consistency – When an individual announces in writing or verbally that they are taking a position on any issue or point of view, he will strongly tend to defend that belief regardless of its accuracy even in the face of overwhelming evidence in the contrary.

(7) Law of Scarcity – When a person perceives that something they want is limited in quantity, they believe that the value of what they want is greater than if it were available in abundance.

(8) Law of Conformity – Most people tend to agree to proposals, products, or services that will be perceived as acceptable by the majority of other people or a majority of an individuals peer group.

(9) Law of Power – People have power over other people to the degree that they are perceived as having greater authority, strength, or expertise.

The third fundamental principle is to master persuasion techniques. By using questions the persuader can clarify statements, determine values, draw out objections, and direct the conversation. By remembering the Laws of Persuasion the persuader can use power words to build a relationship with the receiver. Using the person's name, being courteous and giving reasons behind statements builds relationships between the sender and receiver and builds credibility.

The last fundamental of the Hogan's persuasion paradigm is the impact of non-verbal communication. The persuader must always realize that they are communicating to the receiver even when they are not saying a word. Based on relative position, proximity, expressions, and gestures continue to speak when verbal communication stops. It is important for the persuader to understand how they are communicating at all times to be an effective persuader.

The first step in the preparation phase of Hogan's persuasion paradigm is gathering data. The master persuader must gather, analyze, and utilize data for a successful Win-Win result. The data includes: (1) One's own values, (2) One's own needs and desires, (3) Receivers values, (4) Receivers needs and desires, and (5) Receivers lifestyle. As discussed earlier, the persuasion process is very dynamic and each relationship between persuader and persuadee will be different. It is the responsibility of the persuader to understand what will be necessary for the best Win-Win outcome.

The second step in Hogan's paradigm of persuasion is coding your message. There has been an attempt to use the Meyer-Briggs to predicting midshipmen service selection at the Naval Academy (Bowers, 2002), yet it is also in the use of persuasion that the Meyer-Briggs personality traits can be used. By best understanding the receiver, the persuader can adapt the communication style to match the personality of the receiver. By determining first if the receiver is more logical or emotional and second if the receiver is directive or analytical then the communication used for the persuasion can be altered to best suit the receiver.

The last step in Hogan's preparation phase of the persuasion paradigm is turning yourself on. At this point the persuader must become a dynamic communicator. Charisma sells. And to have the power within one's self the persuader must have passion, faith, rapport, must have the final goal in mind, and power with other people. By having these attributes the persuader can now draw the interest that is needed to persuade the strongest of wills.

The next phase in Hogan's persuasion paradigm is the presentation phase. The first step in the presentation phase is instant rapport. The keys to having instant rapport is to: (1) model the prospect, (2) show sincere interest in the prospect, (3) confirm they are in rapport with the prospect, (4) ask questions to discover values, (5) ask questions to discover rules that define the values, (6) ask questions to identify needs, and (7) ask questions to discover rules that define needs. The persuader must then understand the emotions that are attached to the prospect. By discovering the prospect's values, then it is possible to work toward a Win-Win scenario.

The second stage of Hogan's presentation phase is the powerful presentation. Hogan presents seven keys to a powerful presentation. Plan for a brief presentation and be prepared for a lengthy one. State your objectives briefly at the beginning of the presentation. Let the prospective know what the future is with accepting the proposal compared to what the future will be without the proposal accepted. Be congruent with verbal and non-verbal communications. Use presuppositions lie obviously and luckily to draw interest. Use tie-downs to gain agreement with the prospect and the persuader.

Finally, use client-centered thinking to ensure the prospect understands what is in it for them. By using these seven techniques the message can be delivered to the prospect.

The last stage in Hogan's presentation phase is to "ask until". In this stage the persuader must be able to address resistance and get people to like and trust you. And it is now time to close the deal. In some cases the persuader must be more forceful then others but at all means the persuader must remember that the goal is a Win-Win outcome.

4. Expertise and Trustworthy

There is the belief that all you have to do is declare yourself an expert and you can persuade anyone. Yet there are studies for both sides on whether being an expert has any influence on persuasion (Benoit, 1991; Harmon & Coney, 1982; Hovland & Weiss, 1951; Johnson & Scileppi, 1969; Rosnow & Robinson, 1967; Sternthal, Dholakia, & Leavitt, 1978). And even though an expert may know their field it is hard to persuade an individual who is emotionally tied to the topic. The expert is able to draw interest into the message that a non expert may not be able to do (Petty & Cacioppo, 1986). But the expert alone would not be able to persuade an attitude. Experts have an easier time persuading receivers that have low-involvement and low-ability (Perloff, 1993).

The ability to display trustworthiness may be the most important attribute of a sender that is trying to persuade. If the persuader is found to be untrustworthy then the message will be found with resistance. The critical factor is the audience's perception of the sender's intentions. The audience will find the sender trustworthy as long as there is no perceived bias that will prevent the speaker from being objective on the subject. The audience may perceive that the speaker is biased because of the speaker's background, knowledge on the topic, or the current situation of not allowing the speaker to be fully honest.

E. CHAPTER SUMMARY

Service selection at the United States Naval Academy attempts to match the "desires of the midshipmen" with the "needs of the Navy." With the "needs of the Navy" clearly defined in Naval Academy instructions there continues to be attempts to better understand what factors affect the "desires of the midshipmen." There have been several

recent studies which have taken a piece of the midshipman's life and tried to understand how it correlates with service selection. This study continues that effort and analyzes how midshipmen may be persuaded during summer training cruises toward selection of a particular warfare community.

There are many different aspects to persuasion that if used correctly can benefit both the Navy and midshipmen. Persuasion is in our everyday lives and when used correctly there is the possibility of reaching Hogan's (1996) ideal "Win-Win" paradigm. Finally, by understanding how persuasion works it should be possible to maximize the benefits of using summer training cruises to influence midshipmen's decisions on service selection. Each warfare community wants the midshipmen that are best suited for that community. Finding better matches between the midshipmen and the warfare communities can possibly lead to better performance by the junior officers when they reach the fleet.

III. RESEARCH METHODOLOGY

A. PARTICIPANTS AND PROCEDURE

1. Description of Data Base

Data for this study was collected from the Office of Institutional Research, Planning and Assessment (IR) and The Department of Professional Programs (ProDev). Participants were drawn from the population of USNA Midshipmen for the Class of 2005 who participated in the summer cruise training program and completed an End of Summer Training Survey for 2004. The study includes data from 355 USNA Midshipmen, which represents approximately 36% of the total midshipmen at USNA for the 2004-2005 academic year. Participants include 296 males (83.4%) and 59 (16.6%) females. All participants were single. The ethnic composition of the sample was 83.4% White, 5.4% African-American, 6.5% Hispanic, 2.5% Asian-American, and 2.2% other.

The Department of Professional Programs (ProDev) prepares Midshipmen to be professional officers in the Navy and Marine Corps. ProDev provides the opportunity for Midshipmen to move out of the classroom and experience life at sea with operational fleets through the Summer Training Program (USNA website). Data collected from ProDev was base on service assignment choices of the class of 2005 and are included in Table 1.

Table 1. Service Selection of Midshipmen in Data set

Service Community	Service Selection		
	Initial	Tentative	Final
Marine Corps Aviation	50	51	44
Marine Corps	64	55	63
Navy Aviation	140	154	146
Submarine Warfare	31	33	35
Surface Warfare	54	59	67

Source: From Professional Program (ProDev)

a. Comparison of Survey Sample to USNA Midshipmen Population

As of 19 January, 2005, 987 1/C midshipmen had completed their final service selection. The End of Summer Survey, however, is a voluntary survey and only 637 midshipmen completed the survey. Of completed surveys, only 408 of were from an

aviation, leatherneck, surface, or submarine summer cruise. Of the 408 midshipmen surveys completed, only 355 cases had no missing data when merged with the demographics from IR. With N=355 survey responses include 36% of the class of 2005 midshipmen.

B. MEASURES

1. Dependent Variables

Tentative Service Selection

Tentative Service Selection for Marine Corps Aviation (TEN_MAVA): Tentative service selection for Marine Corps Aviation is a dichotomous variable used to identify midshipmen that tentatively selected Marine Corps Aviation. A midshipman was coded as one if the midshipmen had a tentative service selected Marine Corps Aviation and zero if the midshipmen did not tentative service select Marine Corps Aviation.

Tentative Service Selection for Marine Corps Ground (TEN_MC): Tentative service selection for Marine Corps Ground is a dichotomous variable used to identify midshipmen that tentatively selected Marine Corps Ground. A midshipman was coded as one if the midshipmen had a tentative service selected Marine Corps Ground and zero if the midshipmen did not tentative service select Marine Corps Ground.

Tentative Service Selection for Naval Aviation (TEN_NAVA): Tentative service selection for Naval Aviation is a dichotomous variable used to identify midshipmen that tentatively selected Naval Aviation. A midshipman was coded as one if the midshipmen had a tentative service selected Naval Aviation and zero if the midshipmen did not tentative service select Naval Aviation.

Tentative Service Selection Submarine (TEN_SUB): Tentative service selection for Submarine Warfare is a dichotomous variable used to identify midshipmen that tentatively selected Submarine Warfare. A midshipman was coded as one if the midshipmen had a tentative service selected Submarine Warfare and zero if the midshipmen did not tentative service select Submarine Warfare.

Tentative Service Selection Surface (TEN_SWO): Tentative service selection for Surface Warfare is a dichotomous variable used to identify midshipmen that tentatively selected Surface Warfare. A midshipman was coded as one if the midshipmen had a tentative service selected Surface Warfare and zero if the midshipmen did not tentative service select Surface Warfare.

Final Service Selection

Final Service Selection for Marine Corps Aviation (FIN_MAVA): Final service selection for Marine Corps Aviation is a dichotomous variable used to identify midshipmen that had a final service selection Marine Corps Aviation. A midshipman was coded as one if the midshipmen had a final service selection Marine Corps Aviation and zero if the midshipmen did not have a final service select Marine Corps Aviation.

Final Service Selection for Marine Corps Ground (FIN_MC): Final service selection for Marine Corps Ground is a dichotomous variable used to identify midshipmen that had a final service selection Marine Corps Ground. A midshipman was coded as one if the midshipmen had a final service selection Marine Corps Ground and zero if the midshipmen did not have a final service select Marine Corps Ground.

Final Service Selection for Naval Aviation (FIN_NAVA): Final service selection for Naval Aviation is a dichotomous variable used to identify midshipmen that had a final service selection Naval Aviation. A midshipman was coded as one if the midshipmen had a final service selection Naval Aviation and zero if the midshipmen did not have a final service select Naval Aviation.

Final Service Selection for Submarine (FIN_SUB): Final service selection for Submarine Warfare is a dichotomous variable used to identify midshipmen that had a final service selection Submarine Warfare. A midshipman was coded as one if the midshipmen had a final service selection Submarine Warfare and zero if the midshipmen did not have a final service select Submarine Warfare.

Final Service Selection for Surface (FIN_SWO): Final service selection for Surface Warfare is a dichotomous variable used to identify midshipmen that had a final service selection Surface Warfare. A midshipman was coded as one if the midshipmen

had a final service selection Surface Warfare and zero if the midshipmen did not have a final service select Surface Warfare.

2. Independent Variables

Demographic Factors

Gender: this dichotomous variable coded male as a one and females as zero. This variable also controlled for the restriction of females not being allowed in the submarine warfare community.

Ethnicity: This dichotomous variable coded Caucasians as a one and non-Caucasians as a zero.

Academic Factors

CAQPR: This numerical variable represents the cumulative academic performance of the midshipman. This variable is ranges on a scale of zero to four.

Technical Major: This dichotomous variable separated the midshipmen in the data set into technical and non-technical majors. Midshipmen in Group I (Engineering Divisions) and Group II (Math/Science Divisions) majors were separated into technical majors and recoded to one. Midshipmen in Group III (Humanities and Social Science Division) majors were recoded to zero.

Varsity Sports: This dichotomous variable separated the midshipmen in the data set into those that lettered in varsity sports recoded to one and those that did not letter in varsity sports recoded to zero.

Military Factors

CMQPR: This numerical variable represents the cumulative military performance of the midshipman. This variable is ranges on a scale of zero to four.

Prior Enlisted: This dichotomous variable represents prior enlisted service, and is coded one for those that had enlisted service and zero for those that did not have prior service.

Summer Cruise Training

Aviation STP: This dichotomous variable represents if the midshipman participated in Aviation summer training program. A Midshipman who participated in Aviation summer training program was recoded as one and those that did not participate in Aviation summer training program as zero.

Leatherneck STP: This dichotomous variable represents if the midshipman participated in Leatherneck summer training program. A Midshipman who participated in Leatherneck summer training program was recoded as one and those that did not participate in Leatherneck summer training program as zero.

Submarine STP: This dichotomous variable represents if the midshipman participated in Submarine summer training program. A midshipman who participated in Submarine summer training program was recoded as one and those that did not participate in Submarine summer training program as zero.

Surface STP: This dichotomous variable represents if the midshipman participated in Surface summer training program. A Midshipman who participated in Surface summer training program were recoded as one and those that did not participate in Surface summer training program as zero.

Table 2 describes the coding of all of the independent variables used in this study and lists the variable names. Figure 3 (pg. 35) gives the theoretical model used in the study.

Table 2. Summary of variables

Variable Description	Variable Type	Variable Name	Range of Values
Dependent Variables			
Tentative Service Selection Marine Corps Aviation	Dichotomous	TEN_MAVA	0,1
Tentative Service Selection Marine Corps	Dichotomous	TEN_MC	0,1
Tentative Service Selection Naval Aviation	Dichotomous	TEN_NAVA	0,1
Tentative Service Selection Submarine	Dichotomous	TEN_SUB	0,1
Tentative Service Selection Surface	Dichotomous	TEN_SWO	0,1
Final Service Selection Marine Corps Aviation	Dichotomous	FIN_MAVA	0,1
Final Service Selection Marine Corps	Dichotomous	FIN_MC	0,1
Final Service Selection Naval Aviation	Dichotomous	FIN_NAVA	0,1
Final Service Selection Submarine	Dichotomous	FIN_SUB	0,1
Final Service Selection Surface	Dichotomous	FIN_SWO	0,1
Independent Variables			
Gender	Dichotomous	GENDER	0,1
Ethnicity	Dichotomous	ETHNICITY	0,1
CAQPR	Continuous	CAQPR	0-4
Technical Major	Numerical	TECH_MAJ	0,1
Varsity Sports	Dichotomous	VARSITY	0,1
CMQPR	Continuous	CMQPR	0-4
Prior Enlisted	Dichotomous	PRIOR	0,1
Aviation STP	Dichotomous	AV_STP	0,1
Leatherneck STP	Dichotomous	MC_STP	0,1
Submarine STP	Dichotomous	SUB_STP	0,1
Surface STP	Dichotomous	SWO_STP	0,1

C. SUMMARY

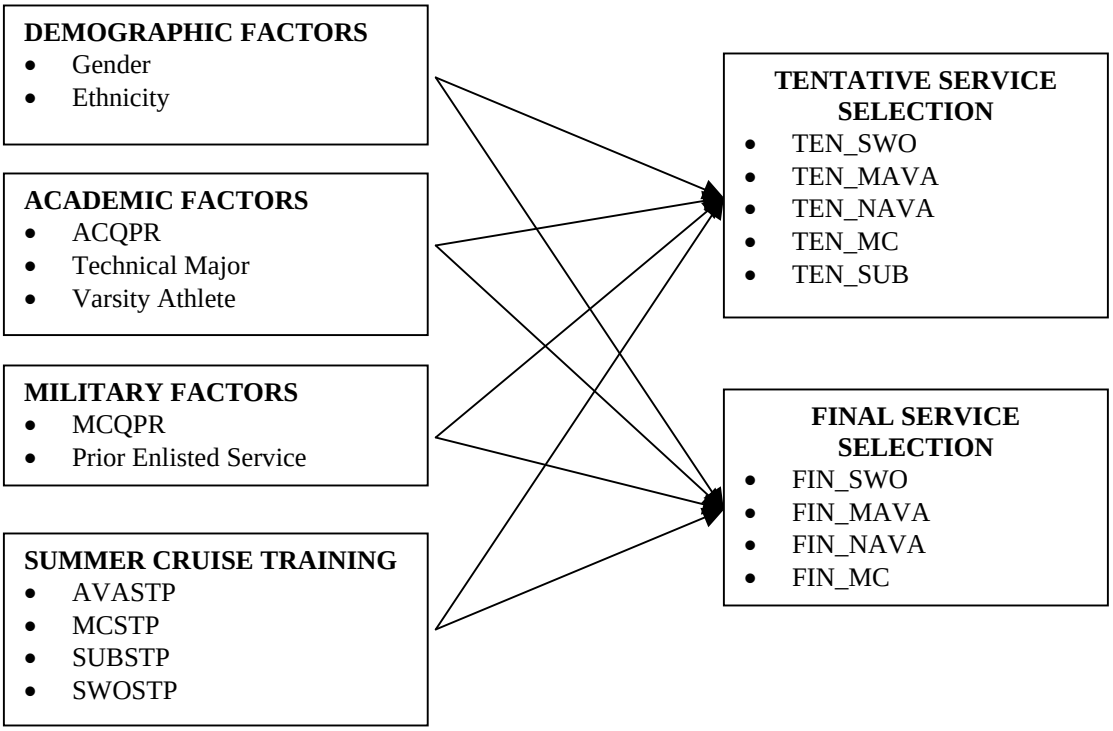
This chapter includes a description of the midshipmen and the variables used for the model. The data was collected from the 2004 End of Summer Training Survey and represent 36% of the class of 2005. The dependent variables were dichotomous and include tentative and final service selection for Marine Corps Aviation, Marine Corps Ground, Naval Aviation, Submarine Warfare, and Surface Warfare. The independent variables were divided into four steps including demographic, academic, military, and summer cruise training.

IV. RESULTS

A. HYPOTHESIZED MODEL

To test the hypothesis that Summer Training Program will have a significant impact on career selection, this study controls for the effects of demographic, academic and military factors. The theoretical model predicts a positive effect of the Summer Training Program on specific service selection. Ten logit regression models are estimated to test the above hypothesis. Figure 3 is a diagram of the theoretical model.

Figure 3. Theoretical Model of Service Selection



The regressions are specified to examine the independent effects of Summer Training Programs on service selection. All the models control for demographic, academic, and military factors. The control variables are entered in the first three steps of each model. Demographic variables are entered in the first step, academic variables are entered in the second step, and military variables are entered in the third step. The Summer Training Program is entered in the last step of the regression. Ten hierarchical regressions models are estimated. The first five regressions the dependent variable is

tentative service selection for Marine Corps Aviation, Marine Corps Ground, Naval Aviation, Surface Warfare, and Submarine Warfare communities. The last five regressions the dependent variable is final service selection for Marine Corps Aviation, Marine Corps Ground, Naval Aviation, Surface Warfare, and Submarine Warfare communities. This analysis will determine the magnitude of the effect of the Summer Training Program on service selection and whether the impact of the Summer Training Program diminishes between the tentative service selection and the final service selection dates.

B. HIERARCHICAL REGRESSION MODEL RESULTS

1. Regression Models Predicting Tentative Service Selection

a. Marine Corps Aviation

This section reviews the results of estimates of models of midshipmen tentative service selection Marine Corps Aviation. Table 3 presents the results of the four regressions. Step four was entered two different ways to determine the impact of Aviation STP and Leatherneck STP on Tentative Service Selection Marine Corps Aviation. In the first approach (Step 4a) Aviation STP was entered; in the second approach (Step 4b) Leatherneck STP was entered.

Table 3. Hierarchical Regression Analysis for Variables Predicting Tentative USMC Aviation Service Selection

Variables	B	SE B	Odds Ratio
Step 1			
Demographic Variables			
Gender	0.35	0.43	1.42
Ethnicity	0.08	0.42	1.08
Constant	-2.14	0.53	0.12
Step 2			
Academic Variables			
Gender	0.32	0.44	1.37
Ethnicity	0.26	0.43	1.30
CAQPR	-0.47	0.34	0.63
Technical Major	-0.14	0.31	0.87
Varsity Sports	-0.19	0.31	0.83
Constant	-0.72	1.06	0.49
Step 3			
Military Variables			
Gender	0.26	0.44	1.30
Ethnicity	0.14	0.44	1.15
CAQPR	**-1.12**	**0.44**	**0.33***
Technical Major	-0.22	0.31	0.80
Varsity Sports	-0.19	0.33	0.83
CMQPR	**1.70**	**0.65**	**5.48***
Prior Enlisted	0.82	0.48	2.28
Constant	-4.01	1.60	0.02
Step 4a			
Summer Training Program (STP)			
Aviation STP			
Gender	0.30	0.46	1.35
Ethnicity	0.24	0.46	1.27
CAQPR	**-0.87**	**0.44**	**0.42***
Technical Major	-0.25	0.33	0.78
Varsity Sports	-0.24	0.34	0.78
CMQPR	**1.97**	**0.66**	**7.14***
Prior Enlisted	**0.97**	**0.50**	**2.64****
Aviation STP	**-2.31**	**0.55**	**0.10***
Constant	-5.18	1.65	23.84
Step 4b			
Summer Training Program (STP)			
Leatherneck STP			
Gender	0.34	0.48	1.40
Ethnicity	0.24	0.49	1.27
CAQPR	-0.52	0.46	0.60
Technical Major	0.05	0.35	1.05
Varsity Sports	-0.17	0.36	0.85
CMQPR	0.46	0.70	1.58
Prior Enlisted	**1.05**	**0.54**	**2.85****
Leatherneck STP	**2.46**	**0.41**	**11.71***
Constant	-3.63	1.73	0.03

Notes: N = 355.
STEP 1: Chi-square = 0.732 ($p = 0.694$); $R^2 = 0.004$.
STEP 2: Chi-square = 2.674 ($p = 0.445$); $R^2 = 0.017$.
STEP 3: Chi-square = 10.447 ($p = 0.005$); $R^2 = 0.068$.
STEP 4a: Chi-square = 42.378 ($p < 0.001$); $R^2 = 0.201$.
Percent correctly classified using STEP 4a = 85.6% (99.7% correctly classified not selected USMC Aviation, 2.0% correctly classified selected USMC Aviation).
STEP 4b: Chi-square = 47.820 ($p < .001$). $R^2 = 0.284$.
Percent correctly classified using STEP 4b = 85.4% (98.4% correctly classified not selected USMC Aviation, 7.8% correctly classified selected USMC Aviation).
***** Sig. < 0.05; ****** Sig. < 0.07.

The first group of demographic variables includes gender and ethnicity. The second group of academic variables includes: CAQPR, Technical Major, and Varsity Sports. None of the variables entered in the first two steps are statistically significant in determining tentative service selection for USMC Aviation.

The third group of military variables includes: CMQPR and Prior Enlisted. In step 3 the coefficient of CMQPR is statistically significant (Wald = 6.901, $p = 0.009$) and the coefficient of CAQPR becomes statistically significant (Wald = 6.566, $p = 0.010$). The impact of these variables is measured through their odds ratio. The odds ratio reflects the relative odds of choosing the outcome (i.e. service selecting USMC Aviation) as a function of a one unit change in the predictor. The odds ratio of CMQPR of 5.48 indicates that a one point increase in CMQPR increases the odds of service selecting USMC Aviation by 5.48. The odds ratio of CAQPR of 0.33 indicates that a one point increase in CAQPR decreases the odds of service selecting USMC Aviation by 0.33. Therefore the odds of service selecting USMC Aviation decreases by 67% with a one unit increase in CAQPR. All the other variables in this step are insignificant.

The Summer Training Program (STP) variables include Aviation STP and Leatherneck STP. In step 4a when Aviation STP is added, Aviation STP is statistically significant (Wald = 17.645, $p < 0.001$), CAQPR is statistically significant (Wald = 3.861, $p = 0.049$), CMQPR is statistically significant (Wald = 8.859, $p = 0.003$), and Prior Enlisted remains marginally statistically significant (Wald = 3.727, $p = 0.054$). The odds ratio of Aviation STP of 0.10 indicates that a midshipmen participating in Aviation STP decreases the odds of service selecting USMC Aviation by 0.10. The odds ratio of CAQPR of 0.42 indicates that for a one point increase in CAQPR decreases the odds of service selecting USMC Aviation by 0.42. The odds ratio of CMQPR of 7.14 indicates that a one point increase in CMQPR increases the odds of service selecting USMC Aviation by 7.14. The odds ratio of Prior Enlisted of 2.63 indicates that a midshipmen being prior enlisted increases the odds of service selecting USMC Aviation by 2.63. All the other variables in the model for this step are not significant. In step 4b when Leatherneck STP is added its coefficient is statistically significant (Wald = 36.391, $p < 0.001$) and the variable Prior Enlisted remains marginally statistically significant (Wald = 3.776, $p = 0.052$). The odds ratio of Leatherneck STP of 11.71 indicates that a

midshipmen participating in Leatherneck STP increases the odds of service selecting USMC Aviation by 11.71. The odds ratio of Prior Enlisted of 2.85 indicates that a midshipmen being prior enlisted increases the odds of service selecting USMC Aviation by 2.85. All the other variables in this step are insignificant.

In this model, when the military variables are entered, CMQPR and CAQPR become statistically significant. In step four when the STP is added into the model, CMQPR and CAQPR remain significant when only Aviation STP is added but are no longer statistically significant when Leatherneck STP is added. Also in steps 4a and 4b the coefficient of Prior Enlisted is statistically significant.

b. Marine Corps Ground

This section reviews the results of a midshipmen tentative service selection Marine Corps Ground. Table 4 presents the results of entering the four steps into the regression.

Table 4. Hierarchical Regression Analysis for Variables Predicting Tentative USMC Ground Service Selection

Variables	B	SE B	Odds Ratio
Step 1			
Demographic Variables			
Gender	0.18	0.37	0.84
Ethnicity	0.19	0.41	1.21
Constant	-1.71	0.48	0.18
Step 2			
Academic Variables			
Gender	-0.15	0.38	0.86
Ethnicity	0.21	0.43	1.23
CAQPR	0.04	0.33	1.04
Technical Major	-0.49	0.30	0.62
Varsity Sports	**0.62**	**0.30**	**1.85***
Constant	-1.94	1.03	0.14
Step 3			
Military Variables			
Gender	-0.21	0.39	0.81
Ethnicity	0.13	0.44	1.14
CAQPR	**-0.93**	**0.43**	**0.40***
Technical Major	**-0.61**	**0.31**	**0.54***
Varsity Sports	0.49	0.32	1.64
CMQPR	**2.32**	**0.66**	**10.13***
Prior Enlisted	0.02	0.60	1.02
Constant	-6.11	1.63	0.00
Step 4			
Summer Training Program (STP)			
Gender	-0.31	0.47	0.73
Ethnicity	0.14	0.52	1.16
CAQPR	0.07	0.49	1.07
Technical Major	-0.55	0.38	0.58
Varsity Sports	**0.81**	**0.38**	**2.25***
CMQPR	0.51	0.76	1.66
Prior Enlisted	-0.10	0.68	0.90
Leatherneck STP	**3.98**	**0.63**	**53.34***
Constant	-6.14	1.94	0.02

Notes: N = 355.
STEP 1: Chi-square = 0.433 (p = 0.805), R^2 = 0.002.
STEP 2: Chi-square = 6.884 (p = 0.076), R^2 = 0.035.
STEP 3: Chi-square = 13.441 (p = 0.001), R^2 = 0.098.
STEP 4: Chi-square = 90.674 (p < 0.001), R^2 = 0.466.
Model Chi-square = 111.432 (p < .001).
Percent correctly classified = 85.6% (95.3% correctly classified not selected USMC Ground, 32.7% correctly classified selected USMC Ground).
***** Sig. < 0.05; ****** Sig. < 0.07.

None of the variables entered in step 1 are statistically significant in determining tentative service selection for USMC Ground. In step 2 Varsity Sports is

statistically significant (Wald = 4.211, p = 0.040). The odds ratio of Varsity Sports of 1.85 indicates that being a varsity athlete increases the odds of service selecting USMC Ground by 1.85. All the other variables in this step of the model are not significant.

In step 3 CMQPR is statistically significant (Wald = 12.37, p < 0.001), CAQPR is now statistically significant (Wald = 4.717, p = 0.030), and Technical Major is statistically significant (Wald = 3.917, p = 0.048). The odds ratio of CMQPR of 10.13 indicates that a one point increase in CMQPR increases the odds of service selecting USMC Ground by 10.13. The odds ratio of CAQPR of 0.40 indicates that a one point increase in CAQPR decreases the odds of service selecting USMC Ground by 0.40. The odds ratio of Technical Major of 0.54 indicates a midshipman with a technical major decrease the odds of service selecting USMC Ground by 0.54. All the other variables in this step are insignificant.

In step 4 Leatherneck STP is statistically significant (Wald = 40.372, p < 0.001) as is Varsity Athlete (Wald = 4.656, p = 0.031). The odds ratio of Leatherneck STP of 53.34 indicates that a midshipmen participating in the Leatherneck STP increases the odds of service selecting USMC Ground by 53.34. The odds ratio of Varsity Athlete of 2.25 indicates that a midshipman being a varsity athlete increases the odds of final service selecting USMC Ground by 2.25. All the other variables in this step are insignificant.

In this model, when the academic variables are entered, Varsity Sports become statistically significant. In step three, CMQPR, CAQPR, and Technical Major all become significant and Varsity Athlete is no longer significant. In step four when the STP variable is added to the model, Leatherneck STP is significant and being a varsity athlete once again is significant.

c. Naval Aviation

This section reviews the results of a midshipmen tentative service selection Naval Aviation. Table 5 presents the results of estimating the four separate regression models (steps).

Table 5. Hierarchical Regression Analysis for Variables Predicting Tentative Naval Aviation Service Selection

Variables	B	SE B	Odds Ratio
Step 1			
Demographic Variables			
Gender	0.19	0.28	1.20
Ethnicity	-0.04	0.29	0.97
Constant	-0.39	0.35	0.68
Step 2			
Academic Variables			
Gender	0.19	0.29	1.21
Ethnicity	-0.23	0.31	0.80
CAQPR	**0.53**	**0.24**	**1.69***
Technical Major	0.22	0.22	1.25
Varsity Sports	**-0.48**	**0.22**	**0.62***
Constant	-1.71	0.76	0.18
Step 3			
Military Variables			
Gender	0.17	0.29	1.18
Ethnicity	-0.21	0.31	0.81
CAQPR	0.34	0.31	1.40
Technical Major	0.21	0.22	1.23
Varsity Sports	**-0.60**	**0.26**	**0.55***
CMQPR	0.33	0.45	1.39
Prior Enlisted	**-1.04**	**0.46**	**0.35***
Constant	-2.02	1.09	0.13
Step 4			
Summer Training Program (STP)			
Gender	0.38	0.39	1.46
Ethnicity	-0.61	0.39	0.54
CAQPR	-0.48	0.41	0.62
Technical Major	0.38	0.30	1.46
Varsity Sports	**-0.91**	**0.30**	**0.40**
CMQPR	0.26	0.58	1.29
Prior Enlisted	**-1.64**	**0.63**	**0.19**
Aviation STP	**3.47**	**0.34**	**32.08**
Constant	-0.46	1.42	0.63

Notes: N = 355.
STEP 1: Chi-square = 0.444 (p = 0.801); R^2 = 0.002.
STEP 2: Chi-square = 11.258 (p = 0.010); R^2 = 0.043.
STEP 3: Chi-square = 5.977 (p = 0.050); R^2 = 0.065.
STEP 4: Chi-square = 157.748 (p < 0.001); R^2 = 0.523.
MODEL: Chi-square = 175.428 (p < 0.001).
Percent correctly classified = 82.0% (89.1% correctly classified not selected Naval Aviation, 72.7% correctly classified selected Naval Aviation).
***** Sig. < 0.05; ****** Sig. < 0.07.

None of the variables in step 1 are statistically significant in determining tentative service selection for Naval Aviation. In step 2 CAQPR is statistically

significant (Wald = 4.77, p = 0.029) and the variable Varsity Athlete is statistically significant (Wald = 4.70, p = 0.030). The odds ratio of CAQPR of 1.69 indicates that a one point increase in CAQPR increases the odds of service selecting Naval Aviation by 1.69. The odds ratio of Varsity Athlete of 0.62 indicates that a midshipman that is a varsity athlete decreases the odds of service selecting Naval Aviation by 0.62. All the other variables in this step of the model are insignificant.

In step 3 Varsity Athlete is statistically significant (Wald = 6.998, p = 0.008) and the variable Prior Enlisted is statistically significant (Wald = 4.992, p = 0.025). The odds ratio of Varsity Athlete of 0.55 indicates that a midshipman that is a varsity athlete decreases the odds of service selecting Naval Aviation by 0.55. The odds ratio of Prior Enlisted of 0.35 indicates that a midshipman being prior enlisted decreases the odds of service selecting Naval Aviation by 0.35. All the other variables in this step are insignificant.

In step 4 the coefficient of Aviation STP is statistically significant (Wald = 104.879, p < 0.001). Also in this step the variable Varsity Athlete is statistically significant (Wald = 8.913, p = 0.003) as is Prior Enlisted (Wald = 6.742, p = 0.009). The odds ratio of Aviation STP of 32.08 indicates that a midshipmen being participating in the Aviation STP increases the odds of service selecting Naval Aviation by 32.08. The odds ratio of Varsity Athlete of 0.40 indicates that a midshipmen being a varsity athlete decreases the odds of service selecting Naval Aviation by 0.40. The odds ratio of Prior Enlisted of 0.19 indicates that a midshipmen being prior enlisted decreases the odds of service selecting Naval Aviation by 0.19. All the other variables in this step are insignificant.

In this model, when the academic variables are entered, CAQPR and Varsity Sports become statistically significant. In step three when military variables are added to the model, Prior Enlisted and Varsity Sports become significant and CAQPR is no longer significant. In step four when the STP variable is added to the model, Aviation STP becomes significant along with Varsity Sports and Prior Enlisted.

d. Surface Warfare

This section reviews the results of a midshipmen tentative service selection Surface Warfare. Table 6 presents the results of estimating the four separate regression models.

Table 6. Hierarchical Regression Analysis for Variables Predicting Tentative Surface Warfare Service Selection

Variables	B	SE B	Odds Ratio
Step 1			
Demographic Variables			
Gender	**-1.10**	**0.32**	**0.33***
Ethnicity	-0.02	0.39	0.99
Constant	-0.75	0.42	0.47
Step 2			
Academic Variables			
Gender	**-1.14**	**0.33**	**0.32***
Ethnicity	0.21	0.42	1.24
CAQPR	**-0.68**	**0.33**	**0.51***
Technical Major	-0.27	0.30	0.77
Varsity Sports	**0.65**	**0.30**	**1.91***
Constant	0.89	1.00	2.43
Step 3			
Military Variables			
Gender	**-1.12**	**0.34**	**0.33***
Ethnicity	0.25	0.42	1.29
CAQPR	0.20	0.43	1.22
Technical Major	-0.21	0.31	0.81
Varsity Sports	**0.82**	**0.32**	**2.28***
CMQPR	**-2.06**	**0.63**	**0.13***
Prior Enlisted	-0.04	0.61	0.96
Constant	4.40	1.48	81.30
Step 4			
Summer Training Program (STP)			
Gender	**-1.01**	**0.39**	**0.37***
Ethnicity	0.77	0.49	2.15
CAQPR	0.27	0.50	1.31
Technical Major	-0.38	0.35	0.68
Varsity Sports	**0.85**	**0.36**	**2.34***
CMQPR	-1.16	0.73	0.31
Prior Enlisted	0.12	0.70	1.13
Surface STP	**2.55**	**0.37**	**12.85***
Constant	-0.13	1.79	1.14

Notes: N = 355.
STEP 1: Chi-square = 11.049 ($p = 0.004$); $R^2 = 0.052$.
STEP 2: Chi-square = 10.492 ($p = 0.015$); $R^2 = 0.099$.
STEP 3: Chi-square = 11.398 ($p = 0.003$); $R^2 = 0.149$.
STEP 4: Chi-square = 53.538 ($p < 0.001$), $R^2 = 0.364$.
MODEL: Chi-square = 86.477 ($p < 0.001$).
Percent correctly classified = 87.3% (95.6% correctly classified not selected Surface Warfare, 45.8% correctly classified selected Surface Warfare).
***** Sig. < 0.05; ****** Sig. < 0.07.

In step 1 Gender (male) is statistically significant (Wald = 11.853, p = 0.001). The odds ratio of 0.33 indicates that male midshipmen have lower odds of

service selecting Surface Warfare by 0.33. No other variables entered in this step are statistically significant in determining tentative service selection for Surface Warfare.

In step 2 Gender (male) is statistically significant (Wald = 11.909, p = 0.001), CAQPR is statistically significant (Wald = 4.277, p = 0.039), and Varsity Athlete is statistically significant (Wald = 4.699, p = 0.031). The odds ratio of Gender of 0.32 indicates that being a male midshipman decreases the odds of service selecting Surface Warfare by 0.32. The odds ratio of CAQPR of 0.51 indicates that a one point increase in CAQPR decreases the odds of service selecting Surface Warfare by 0.51. The odds ratio of Varsity Athlete of 1.91 indicates that a midshipman that is a varsity athlete increases the odds of service selecting Surface Warfare by 1.91. All the other variables in this step are insignificant.

In step 3 CMQPR is statistically significant (Wald = 10.742, p = 0.001), Gender (male) is statistically significant (Wald = 10.959, p = 0.001), and Varsity Athlete is statistically significant (Wald = 6.674, p = 0.031). The odds ratio of CMQPR of 0.13 indicates that a one point increase in CMQPR decreases the odds of service selecting Surface Warfare by 0.13. The odds ratio of Gender of 0.33 indicates that being a male midshipman decreases the odds of service selecting Surface Warfare by 0.33. The odds ratio of Varsity Athlete of 2.28 indicates that a midshipman that is a varsity athlete increases the odds of service selecting Surface Warfare by 2.28. All the other variables in this step are insignificant.

In step 4 Surface STP is statistically significant (Wald = 547.853, p < 0.001). Also in this step Gender (male) is statistically significant (Wald = 6.569, p = 0.010) and Varsity Athlete is statistically significant (Wald = 5.644, p = 0.018). The odds ratio of Surface STP of 12.85 indicates that a midshipmen being participating in the Surface STP increases the odds of service selecting Surface Warfare by 12.85. The odds ratio of Gender of 0.37 indicates that being a male midshipman decreases the odds of service selecting Surface Warfare by 0.37. The odds ratio of Varsity Athlete of 2.34 indicates that a midshipman that is a varsity athlete increases the odds of service selecting Surface Warfare by 2.34. All the other variables in this step are insignificant.

In this model, when the demographic variables are entered, Gender is statistically significant. In step two when the academic variables are entered, Varsity Sports, CAQPR and Gender are now significant. In step three when military variables are added to the model, CMQPR, Varsity Sports, and Gender are significant and CAQPR is no longer significant. In step four when the STP variable is added to the model, Surface STP become significant along with Gender and Varsity Athlete.

e. Submarine Warfare

This section reviews the results of a midshipmen tentative service selection Submarine Warfare. Table 7 presents the results of estimating the four separate regression models.

Table 7. Hierarchical Regression Analysis for Variables Predicting Tentative Submarine Warfare Service Selection

Variables	B	SE B	Odds Ratio
Step 1			
Demographic Variables			
Ethnicity	-0.12	0.48	0.89
Constant	-2.18	0.43	0.11
Step 2			
Academic Variables			
Ethnicity	-0.31	0.51	0.73
CAQPR	0.18	0.41	1.20
Technical Major	**0.87**	**0.41**	**2.39***
Varsity Sports	-0.35	0.38	0.70
Constant	-2.97	1.20	0.05
Step 3			
Military Variables			
Ethnicity	-0.30	0.53	0.74
CAQPR	**1.77**	**0.57**	**5.88***
Technical Major	**1.02**	**0.43**	**2.78***
Varsity Sports	-0.07	0.40	0.94
CMQPR	**-3.47**	**0.83**	**0.03***
Prior Enlisted	1.02	0.59	2.77
Constant	2.43	1.83	11.32
Step 4			
Summer Training Program (STP)			
Ethnicity	-0.72	0.62	0.49
CAQPR	**1.73**	**0.65**	**5.62***
Technical Major	0.88	0.48	2.42
Varsity Sports	-0.07	0.45	0.93
CMQPR	**-2.82**	**0.94**	**0.06***
Prior Enlisted	0.89	0.71	2.43
Submarine STP	**-2.93**	**0.49**	**18.64***
Constant	0.43	2.05	1.53

Notes: N = 355.
STEP 1: Chi-square = 0.63 ($p = 0.802$); $R^2 = 0.000$.
STEP 2: Chi-square = 6.184 ($p = 0.103$); $R^2 = 0.038$.
STEP 3: Chi-square = 21.852 ($p < 0.001$); $R^2 = 0.165$.
STEP 4: Chi-square = 48.661 ($p < 0.001$), $R^2 = 0.421$.
MODEL: Chi-square = 76.760 ($p < 0.001$).
Percent correctly classified = 91.5% (97.2% correctly classified not selected Submarine Warfare, 36.4% correctly classified selected Submarine Warfare).
***** Sig. < 0.05; ****** Sig. < 0.07.

In the first step only ethnicity was included since females can not service select submarines. None of the variables in step 1 are statistically significant in determining tentative service selection for Submarine Warfare. In step 2 Technical Major is statistically significant (Wald = 4.470, p = 0.035). The odds ratio of Technical

Major of 2.39 indicates that midshipman with a technical major increase the odds of service selecting Submarine Warfare by 2.39. All the other variables in this step of the model are insignificant.

In step 3 CMQPR is statistically significant (Wald = 17.334, $p < 0.001$), CAQPR is statistically significant (Wald = 9.635, $p = 0.002$), and Technical Major is statistically significant (Wald = 5.591, $p = 0.018$). The odds ratio of CMQPR of 0.03 indicates that a one point increase in CMQPR decreases the odds of service selecting Submarine Warfare by 0.03. The odds ratio of CAQPR of 5.88 indicates that a one point increase in CAQPR increases the odds of service selecting Submarine Warfare by 5.88. The odds ratio of Technical Major of 2.78 indicates that a midshipman with a technical major increases the odds of service selecting Submarine Warfare by 2.78. All the other variables in this step are insignificant.

In step 4 the coefficient of Submarine STP is statistically significant (Wald = 36.178, $p < 0.001$). Also in this step, CAQPR is statistically significant (Wald = 6.969, $p = 0.008$), as is CMQPR is marginally statistically significant (Wald = 8.908, $p = 0.003$). The odds ratio of Submarine STP of 18.64 indicates that a midshipmen being participating in the Surface STP increases the odds of service selecting Surface Warfare by 18.64. The odds ratio of CAQPR of 5.62 indicates that a one point increase in CAQPR increases the odds of service selecting Submarine Warfare by 5.62. The odds ratio of CMQPR of 0.06 indicates that a one point increase in CMQPR decreases the odds of service selecting Submarine Warfare by 0.06. All the other variables in this step are insignificant.

In this model, when the academic variables are entered, Technical Major becomes statistically significant. In step three when military variables are added to the model, CMQPR and CAQPR become significant along with Technical Major. In step four when the STP variables are added to the model, Submarine STP was statistically significant and the variables CAQPR and CMQPR remain significant.

2. Regression Models Predicting Final Service Selection

a. Marine Corps Aviation

This section reviews the results of estimates of models of midshipmen final service selection Marine Corps Aviation. Table 8 presents the results of the four regressions. Once again step four was entered two different ways to determine the impact of Aviation STP and Leatherneck STP on Final Service Selection Marine Corps Aviation. In the first approach (Step 4a) Aviation STP was entered; In the second approach (Step 4b) Leatherneck STP was entered.

Table 8. Hierarchical Regression Analysis for Variables Predicting Final USMC Aviation Service Selection

Variables	B	SE B	Odds Ratio
Step 1			
Demographic Variables			
Gender	**1.63**	**0.74**	**5.12***
Ethnicity	0.49	0.50	1.63
Constant	-3.84	0.84	0.02
Step 2			
Academic Variables			
Gender	**1.61**	**0.74**	**5.00***
Ethnicity	0.51	0.52	1.66
CAQPR	0.08	0.36	1.09
Technical Major	-0.25	0.33	0.78
Varsity Sports	-0.26	0.33	0.77
Constant	-3.84	1.30	0.02
Step 3			
Military Variables			
Gender	**1.56**	**0.74**	**4.77***
Ethnicity	0.40	0.52	1.50
CAQPR	-0.66	0.46	0.52
Technical Major	-0.32	0.33	0.73
Varsity Sports	-0.35	0.34	0.70
CMQPR	**1.82**	**0.71**	**6.15***
Prior Enlisted	-0.00	0.60	1.00
Constant	-7.12	1.88	0.00
Step 4a			
Summer Training Program (STP)			
Aviation STP			
Gender	**1.63**	**0.75**	**5.08***
Ethnicity	0.49	0.54	1.63
CAQPR	-0.38	0.46	0.69
Technical Major	-0.39	0.35	0.68
Varsity Sports	-0.39	0.36	0.67
CMQPR	1.95	0.72	7.13
Prior Enlisted	0.13	0.61	1.14
Aviation STP	-1.95	14.91	0.14
Constant	-8.04	17.31	0.00
Step 4b			
Summer Training Program (STP)			
Leatherneck STP			
Gender	**1.80**	**0.77**	**6.04***
Ethnicity	0.44	0.57	1.54
CAQPR	0.08	0.49	1.08
Technical Major	-0.11	0.37	0.90
Varsity Sports	-0.39	0.38	0.68
CMQPR	0.57	0.76	1.77
Prior Enlisted	0.08	0.65	1.08
Leatherneck STP	**2.58**	**0.45**	**13.18***
Constant	-7.24	2.03	0.01

Notes: N = 355.
STEP 1: Chi-square = 8.833 ($p = 0.012$); $R^2 = 0.047$.
STEP 2: Chi-square = 1.236 ($p = 0.744$); $R^2 = 0.053$.
STEP 3: Chi-square = 6.903 ($p = 0.032$); $R^2 = 0.089$.
STEP 4a: Chi-square = 21.117 ($p < 0.001$); $R^2 = 0.193$.
Percent correctly classified used STEP 4a = 87.6% (100% correctly classified not selected USMC Aviation, 0.0% correctly classified selected USMC Aviation).
STEP 4b: Chi-square = 45.083 ($p < 0.001$); $R^2 = 0.304$.
Percent correctly classified using STEP 4b = 87.6% (100% correctly classified not selected USMC Aviation, 0.0% correctly classified selected USMC Aviation).
***** Sig. < 0.05; ****** Sig. < 0.07.

In step 1 Gender (male) is statistically significant (Wald = 4.89, p = 0.027). The odds ratio of Gender of 5.12 indicates that being a male midshipmen have lower odds of service selecting USMC Aviation by 5.12. No other variables entered in this step are statistically significant in determining final service selection for USMC Aviation.

In step 2 Gender (male) is once again statistically significant (Wald = 4.747, p = 0.029). The odds ratio of Gender of 5.00 indicates that being a male midshipman increases the odds of service selecting USMC Aviation by 5.00. No other variables entered in this step are statistically significant in determining final service selection for USMC Aviation.

In step 3 CMQPR is statistically significant (Wald = 6.554, p = 0.010) and in this step Gender (male) is still statistically significant (Wald = 4.436, p = 0.035). The odds ratio of CMQPR of 6.15 indicates that a one point increase in CMQPR increases the odds of service selecting USMC Aviation by 6.15. The odds ratio of Gender of 4.77 indicates that being a male midshipman increases the odds of service selecting USMC Aviation by 4.77. No other variables entered in this step are statistically significant in determining final service selection for USMC Aviation.

The Summer Training Program (STP) variables include Aviation STP and Leatherneck STP. In step 4a when Aviation STP is added, Aviation STP is statistically significant (Wald = 14.911, p < 0.001) also in this step Gender (male) is still significant (Wald = 4.67, p = 0.031) and CMQPR is statistically significant (Wald = 7.521, p = 0.006). The odds ratio of Aviation STP of 0.14 indicates that a midshipmen participating in Aviation STP decreases the odds of service selecting USMC Aviation by 0.14. The odds ratio of Gender of 5.08 indicates that being a male midshipman increases the odds of service selecting USMC Aviation by 5.08. The odds ratio of CMQPR of 7.13 indicates that for a one point increase in CMQPR increases the odds of service selecting USMC Aviation by 7.13. In step 4b when Leatherneck STP is added its coefficient is statistically significant (Wald = 32.983, p < 0.001) also in this step Gender (male) is still significant (Wald = 5.499, p = 0.019). The odds ratio of Leatherneck STP of 13.18 indicates that a midshipmen participating in Leatherneck STP increases the odds of

service selecting USMC Aviation by 13.18. The odds ratio of Gender of 6.04 indicates that being a male midshipman increases the odds of service selecting USMC Aviation by 6.04.

In this model, when the demographic variables are entered, Gender is statistically significant. In step two when the academic variables are entered, Gender remains the only variable that is statistically significant. In step three when military variables are added to the model, Gender remains statistically significant and now CMQPR is also significant. In step four STPs are added into the model, in step 4a Aviation STP becomes significant along with Gender and CMQPR. In step 4b Leatherneck STP becomes significant and the coefficient of Gender remains statistically significant.

b. Marine Corps Ground

This section reviews the results of a midshipmen final service selection Marine Corps Ground. Table 9 presents the results of entering the four steps into the regression.

Table 9. Hierarchical Regression Analysis for Variables Predicting Final USMC Ground Service Selection

Variables	B	SE B	Odds Ratio
Step 1			
Demographic Variables			
Gender	-0.46	0.34	0.63
Ethnicity	-0.33	0.35	0.72
Constant	-0.90	0.41	0.41
Step 2			
Academic Variables			
Gender	-0.47	0.34	0.63
Ethnicity	-0.14	0.37	0.87
CAQPR	-0.45	0.32	0.64
Technical Major	**-0.56**	**0.29**	**0.57***
Varsity Sports	0.50	0.29	1.64
Constant	0.31	0.956	1.36
Step 3			
Military Variables			
Gender	-0.57	0.36	0.56
Ethnicity	-0.27	0.39	0.76
CAQPR	**-1.56**	**0.43**	**0.21***
Technical Major	**-0.73**	**0.30**	**0.48***
Varsity Sports	0.41	0.31	1.51
CMQPR	**2.64**	**0.64**	**13.99***
Prior Enlisted	0.57	0.51	1.76
Constant	-4.42	1.51	0.01
Step 4			
Summer Training Program (STP)			
Gender	**-0.97**	**0.48**	**0.38***
Ethnicity	-0.34	0.51	0.71
CAQPR	-0.80	0.51	0.45
Technical Major	**-0.73**	**0.38**	**0.48****
Varsity Sports	**0.76**	**0.38**	**2.14***
CMQPR	1.03	0.78	2.79
Prior Enlisted	0.71	0.66	2.03
Leatherneck STP	**4.25**	**0.63**	**70.31***
Constant	-4.24	1.89	0.01

Notes: N = 355.
STEP 1: Chi-square = 2.644 ($p = 0.267$); $R^2 = 0.012$.
STEP 2: Chi-square = 9.489 ($p = 0.023$); $R^2 = 0.055$.
STEP 3: Chi-square = 20.573 ($p < 0.001$); $R^2 = 0.145$.
STEP 4: Chi-square = 108.262 ($p < 0.001$); $R^2 = 0.540$.
MODEL: Chi-square = 140.969 ($p < .001$).
Percent correctly classified = 85.9% (92.1% correctly classified not selected USMC Ground, 57.1% correctly classified selected USMC Ground).
***** Sig. < 0.05; ****** Sig. < 0.07.

None of the variables entered in step 1 are statistically significant in determining final service selection for USMC Ground. In step 2 Technical Major is

marginally statistically significant (Wald = 3.775, p = 0.052). The odds ratio of Technical Major of 0.57 indicates that a midshipman with a technical major decreases the odds of service selecting USMC Ground by 0.57. All the other variables in this step are insignificant.

In step 3 CMQPR is statistically significant (Wald = 17.029, p < 0.001), CAQPR is now statistically significant (Wald = 13.317, p < 0.001), and Technical Major is statistically significant (Wald = 5.929, p = 0.015). The odds ratio of CMQPR of 13.99 indicates that a one point increase in CMQPR increases the odds of service selecting USMC Ground by 13.99. The odds ratio of CAQPR of 0.21 indicates that a one point increase in CAQPR decreases the odds of service selecting USMC Ground by 0.21. The odds ratio of Technical Major of 0.48 indicates a midshipman with a technical major decrease the odds of service selecting USMC Ground by 0.48. All the other variables in this step are insignificant.

In step 4 Leatherneck STP is statistically significant (Wald = 45.212, p < 0.001) as is Gender is statistically significant (Wald = 4.047, p = 0.044), Technical Major is statistically marginally significant (Wald = 3.609, p = 0.057). and Varsity Athlete is significant (Wald = 4.029, p = 0.045). The odds ratio of Leatherneck STP of 70.31 indicates that a midshipmen participating in the Leatherneck STP increases the odds of service selecting USMC Ground by 70.31. The odds ratio of Gender of 0.44 indicates that being a male midshipman decreases the odds of service selecting USMC Ground by 0.44. The odds ratio of Technical Major of 0.48 indicates that a midshipman with having a technical major decreases the odds of final service selecting USMC Ground by 0.48. The odds ratio of Varsity Athlete of 2.14 indicates midshipman being a varsity athlete increases the odds of final service selecting USMC Ground by 2.14. All the other variables in this step are insignificant.

In this model, when the academic variables are entered, Technical Major is statistically significant. In step three Technical Major is joined with CAQPR and CMQPR in being statistically significant. In step four when the STP variables are added to the model, Leatherneck STP become significant along with Gender, Technical Major and Varsity Athlete.

c. Naval Aviation

This section reviews the results of a midshipmen final service selection Naval Aviation. Table 10 presents the results of estimating the four separate regression models (steps).

Table 10. Hierarchical Regression Analysis for Variables Predicting Final Naval Aviation Service Selection

Variables	B	SE B	Odds Ratio
Step 1			
Demographic Variables			
Gender	0.24	0.29	1.27
Ethnicity	-0.15	0.29	0.86
Constant	-0.43	0.35	0.65
Step 2			
Academic Variables			
Gender	0.24	0.29	1.27
Ethnicity	-0.32	0.31	0.73
CAQPR	**0.45**	**0.24**	**1.56****
Technical Major	0.27	0.22	1.31
Varsity Sports	**-0.49**	**0.22**	**0.61***
Constant	-1.54	0.76	0.21
Step 3			
Military Variables			
Gender	0.21	0.29	1.24
Ethnicity	-0.31	0.31	0.74
CAQPR	0.20	0.31	1.22
Technical Major	0.25	0.23	1.28
Varsity Sports	**-0.62**	**0.23**	**0.54***
CMQPR	0.47	0.46	1.60
Prior Enlisted	**-0.95**	**0.47**	**0.39***
Constant	-2.11	1.10	0.12
Step 4			
Summer Training Program (STP)			
Gender	0.43	0.38	1.54
Ethnicity	**-0.76**	**0.39**	**0.47***
CAQPR	-0.65	0.41	0.52
Technical Major	0.43	0.29	1.53
Varsity Sports	**-0.88**	**0.30**	**0.41***
CMQPR	0.49	0.57	1.64
Prior Enlisted	**-1.44**	**0.62**	**0.24***
Aviation STP	**3.26**	**0.33**	**25.95***
Constant	-0.76	1.40	0.47

Notes: N = 355.
STEP 1: Chi-square = 0.943 ($p = 0.624$); $R^2 = 0.004$.
STEP 2: Chi-square = 10.411 ($p = 0.015$); $R^2 = 0.042$.
STEP 3: Chi-square = 5.532 ($p = 0.063$); $R^2 = 0.063$.
STEP 4: Chi-square = 143.536 ($p < 0.001$); $R^2 = 0.490$.
MODEL: Chi-square = 160.421 ($p < .001$).
Percent correctly classified = 81.1% (86.6% correctly classified not selected Naval Aviation, 73.3% correctly classified selected Naval Aviation).
***** Sig. < 0.05; ****** Sig. < 0.07.

None of the variables in step 1 are statistically significant in determining final service selection for Naval Aviation. In step 2 CAQPR is marginally statistically significant (Wald = 3.375, p = 0.066) and Varsity Athlete is statistically significant (Wald = 4.939, p = 0.026). The odds ratio of CAQPR of 1.56 indicates that a one point increase in CAQPR increases the odds of service selecting Naval Aviation by 1.56. The odds ratio of Varsity Athlete of 0.61 indicates that a midshipman that is a varsity athlete decreases the odds of service selecting Naval Aviation by 0.61. All the other variables in this step are insignificant.

In step 3 Varsity Athlete is statistically significant (Wald = 7.269, p = 0.007) and Prior Enlisted is statistically significant (Wald = 4.185, p = 0.041). The odds ratio of Varsity Athlete of 0.54 indicates that a midshipman that is a varsity athlete decreases the odds of service selecting Naval Aviation by 0.54. The odds ratio of Prior Enlisted of 0.39 indicates that a midshipman being prior enlisted decreases the odds of service selecting Naval Aviation by 0.39. All the other variables in this step are insignificant.

In step 4 the coefficient Aviation STP is statistically significant (Wald = 100.184, p < 0.001). Also in this step Ethnicity is statistically significant (Wald = 3.870, p = 0.049), Varsity Athlete is statistically significant (Wald = 8.928, p = 0.003), as is Prior Enlisted (Wald = 5.401, p = 0.020). The odds ratio of Aviation STP of 25.95 indicates that a midshipman that participates in the Aviation STP increases the odds of service selecting Naval Aviation by 25.95. The odds ratio of Ethnicity of 0.47 indicates that a midshipman of non-minority decreases the odds of service selecting Naval Aviation by 0.47. The odds ratio of Varsity Athlete of 0.41 indicates that a midshipmen being a varsity athlete decreases the odds of service selecting Naval Aviation by 0.41. The odds ratio of Prior Enlisted of 0.24 indicates that a midshipmen being prior enlisted decreases the odds of service selecting Naval Aviation by 0.24. All the other variables in this step are insignificant.

In this model, when the academic variables are entered, CAQPR and Varsity Sports become statistically significant. In step three when military variables are added to the model, Prior Enlisted and Varsity Sports become significant and CAQPR is

no longer significant. In step four when the STP variables are added to the model, Aviation STP is found significant and the variables Ethnicity, Varsity Sports, and Prior Enlisted are also found significant.

d. Surface Warfare

This section reviews the results of a midshipmen final service selection Surface Warfare. Table 11 presents the results of estimating the four separate regression models.

Table 11. Hierarchical Regression Analysis for Variables Predicting Final Surface Warfare Service Selection

Variables	B	SE B	Odds Ratio
Step 1			
Demographic Variables			
Gender	**-1.18**	**0.31**	**0.31***
Ethnicity	0.33	0.40	1.39
Constant	-0.83	0.43	0.44
Step 2			
Academic Variables			
Gender	**-1.22**	**0.32**	**0.30***
Ethnicity	0.55	0.42	1.73
CAQPR	**-0.66**	**0.31**	**0.52***
Technical Major	-0.14	0.29	0.87
Varsity Sports	**0.59**	**0.28**	**1.80***
Constant	0.74	0.96	2.09
Step 3			
Military Variables			
Gender	**-1.21**	**0.33**	**0.30***
Ethnicity	0.60	0.43	1.82
CAQPR	0.48	0.42	1.62
Technical Major	-0.06	0.30	0.95
Varsity Sports	**0.87**	**0.31**	**2.38***
CMQPR	**-2.67**	**0.62**	**0.07***
Prior Enlisted	0.38	0.55	1.46
Constant	5.23	1.46	186.19
Step 4			
Summer Training Program (STP)			
Gender	**-1.12**	**0.38**	**0.33***
Ethnicity	**1.12**	**0.49**	**3.07***
CAQPR	0.62	0.47	1.86
Technical Major	-0.18	0.33	0.83
Varsity Sports	**0.86**	**0.34**	**2.37***
CMQPR	-2.05	0.70	0.13
Prior Enlisted	0.56	0.63	1.75
Surface STP	**-2.31**	**0.36**	**10.03***
Constant	1.75	1.69	5.77

Notes: N = 355.
STEP 1: Chi-square = 14.393 ($p = 0.001$); $R^2 = 0.064$.
STEP 2: Chi-square = 9.579 ($p = 0.023$); $R^2 = 0.105$.
STEP 3: Chi-square = 20.802 ($p < 0.001$); $R^2 = 0.191$.
STEP 4: Chi-square = 45.630 ($p < 0.001$); $R^2 = 0.362$.
MODEL: Chi-square = 90.404 ($p < 0.001$).
Percent correctly classified = 84.5% (95.1% correctly classified not selected Surface Warfare, 38.8% correctly classified selected Surface Warfare).
***** Sig. < 0.05; ****** Sig. < 0.07.

In step 1 Gender (male) is statistically significant (Wald = 14.611, $p < 0.001$). The odds ratio of 0.31 indicates that male midshipmen have lower odds of service selecting Surface Warfare by 0.31. No other variables entered in this step are statistically significant in determining final service selection for Surface Warfare.

In step 2 Gender (male) is statistically significant (Wald = 14.701, $p < 0.001$), CAQPR is statistically significant (Wald = 4.480, $p = 0.034$), and Varsity Athlete is statistically significant (Wald = 4.237, $p = 0.040$). The odds ratio of Gender of 0.30 indicates that being a male midshipman decreases the odds of service selecting Surface Warfare by 0.30. The odds ratio of CAQPR of 0.52 indicates that a one point increase in CAQPR decreases the odds of service selecting Surface Warfare by 0.52. The odds ratio of Varsity Athlete of 1.80 indicates that a midshipman that is a varsity athlete increases the odds of service selecting Surface Warfare by 1.80. All the other variables in this step are insignificant.

In step 3 CMQPR is statistically significant (Wald = 18.466, $p < 0.001$), Gender (male) is statistically significant (Wald = 13.389, $p < 0.001$), and Varsity Athlete is statistically significant (Wald = 7.812, $p = 0.005$). The odds ratio of CMQPR of 0.07 indicates that a one point increase in CMQPR decreases the odds of service selecting Surface Warfare by 0.07. The odds ratio of Gender of 0.30 indicates that being a male midshipman decreases the odds of service selecting Surface Warfare by 0.30. The odds ratio of Varsity Athlete of 2.38 indicates that a midshipman that is a varsity athlete increases the odds of service selecting Surface Warfare by 2.38. All the other variables in this step are insignificant.

In step 4 Surface STP is statistically significant in this step (Wald = 41.877, $p < 0.001$). Also in this step, Gender (male) is statistically significant (Wald = 8.772, $p = 0.003$), Ethnicity is statistically significant (Wald = 5.158, $p = 0.023$), Varsity Athlete is statistically significant (Wald = 6.473, $p = 0.011$), and CMQPR is statistically significant (Wald = 8.664, $p = 0.003$). The odds ratio of Surface STP of 10.03 indicates that a midshipman that participates in the Surface STP increases the odds of service selection Surface Warfare by 10.03. The odds ratio of Gender of 0.33 indicates that

being a male midshipman decreases the odds of service selecting Surface Warfare by 0.33. The odds ratio of Ethnicity of 3.07 indicates that a midshipman that is a non-minority increases the odds of service selecting Surface Warfare by 3.07. The odds ratio of Varsity Athlete of 2.37 indicates that a midshipman being a varsity athlete increases the odds of service selecting Surface Warfare by 2.37. The odds ratio of CMQPR of 0.13 indicates for a one point increase in CMQPR decreases the odds of service selection Surface Warfare by 0.13. All the other variables in this step are insignificant.

In this model, when the demographic variables are entered, Gender is statistically significant. In step two when the academic variables are entered, Varsity Sports, CAQPR and Gender are now significant. In step three when military variables are added to the model, CMQPR, Varsity Sports, and Gender are significant and CAQPR is no longer significant. In step four when the STP variable is added to the model, Surface STP is significant also the variables Gender, Ethnicity, Varsity Athlete, and CMQPR are statistically significant.

e. Submarine Warfare

This section reviews the results of a midshipmen final service selection Submarine Warfare. Table 12 presents the results of estimating the four separate regression models.

Table 12. Hierarchical Regression Analysis for Variables Predicting Final Submarine Warfare Service Selection

Variables	B	SE B	Odds Ratio
Step 1			
Demographic Variables			
Ethnicity	-0.04	0.47	0.96
Constant	-2.18	0.43	0.11
Step 2			
Academic Variables			
Ethnicity	-0.33	0.51	0.72
CAQPR	0.46	0.40	1.58
Technical Major	**0.77**	**0.40**	**2.16****
Varsity Sports	-0.19	0.36	0.83
Constant	-3.72	1.19	0.02
Step 3			
Military Variables			
Ethnicity	-0.30	0.52	0.74
CAQPR	**1.84**	**0.56**	**6.28***
Technical Major	**0.86**	**0.41**	**2.37***
Varsity Sports	0.04	0.38	1.04
CMQPR	**-3.02**	**0.79**	**0.05***
Prior Enlisted	0.65	0.62	1.91
Constant	1.07	1.76	2.90
Step 4			
Summer Training Program (STP)			
Ethnicity	-0.75	0.61	0.47
CAQPR	**1.82**	**0.64**	**6.20***
Technical Major	0.72	0.46	2.05
Varsity Sports	0.07	0.44	1.07
CMQPR	-2.27	0.91	0.10
Prior Enlisted	0.37	0.76	1.44
Submarine STP	**3.09**	**0.49**	**21.91***
Constant	-1.35	2.03	0.26

Note: N = 355.
STEP 1: Chi-square = 0.008 ($p = 0.930$); $R^2 = 0.000$.
STEP 2: Chi-square = 6.182 ($p = 0.103$); $R^2 = 0.036$.
STEP 3: Chi-square = 16.791 ($p < 0.001$); $R^2 = 0.132$.
STEP 4: Chi-square = 42.789 ($p < 0.001$); $R^2 = 0.356$.
MODEL: Chi-square = 65.770 ($p < 0.001$).
Percent correctly classified = 91.8% (97.5% correctly classified not selected Submarine Warfare, 40.0% correctly classified selected Submarine Warfare).
***** Sig. < 0.05; ****** Sig. < 0.07.

None of the variables in step 1 are statistically significant in determining tentative service selection for Submarine Warfare. In step 2 Technical Major is marginally statistically significant (Wald = 3.782, p = 0.052). The odds ratio of Technical Major of 2.16 indicates that midshipman with a technical major increase the

odds of service selecting Submarine Warfare by 2.16. All the other variables in this step are insignificant.

In step 3 CMQPR is statistically significant (Wald = 14.518, $p < 0.001$), CAQPR is statistically significant (Wald = 10.972, $p = 0.001$), and Technical Major is statistically significant (Wald = 4.439, $p = 0.035$). The odds ratio of CMQPR of 0.05 indicates that a one point increase in CMQPR decreases the odds of service selecting Submarine Warfare by 0.05. The odds ratio of CAQPR of 6.28 indicates that a one point increase in CAQPR increases the odds of service selecting Submarine Warfare by 6.28. The odds ratio of Technical Major of 2.37 indicates that a midshipman with a technical major increases the odds of service selecting Submarine Warfare by 2.37. All the other variables in this step are insignificant.

In step 4 Submarine STP is statistically significant in this step (Wald = 40.537, $p < 0.001$). Also in this step, CAQPR is statistically significant (Wald = 8.083, $p = 0.004$) and CMQPR is statistically significant (Wald = 6.157, $p = 0.013$). The odds ratio of Submarine STP of 21.91 indicates that the midshipman participating in Submarine STP increases the odds of service selecting Submarine Warfare by 21.91. The odds ratio of CAQPR of 2.05 indicates that a one point increase in CAQPR increases the odds of service selecting Submarine Warfare by 2.05. The odds ratio of CMQPR of 0.10 indicates that a one point increase in CMQPR increases the odds of service selecting Submarine Warfare by 0.10. All the other variables in this step are insignificant.

In this model, when the academic variables are entered, Technical Major becomes statistically significant. In step three when military variables are added to the model, CMQPR and CAQPR become significant along with Technical Major. In step four when the STP variable is added to the model, Submarine STP is found significant also the variables CAQPR and CMQPR are significant.

C. SUMMARY OF RESULTS

This study tested a theoretical model of midshipmen service selection. The analyses provide a framework to investigate the influence of the Summer Training Program on tentative and final service selection at the United States Naval Academy. The model predicts that demographic, academic, and military factors influence a midshipman's service selection choice. In addition, the model theorizes that participation in STP will have a positive influence in service selection. Regression analyses testing the impact of these variables on tentative and final service selection were presented in this chapter. The next chapter discusses the implications of these findings for service selection.

V. CONCLUSION AND RECOMMENDATIONS

A. INTRODUCTION

This study used quantitative techniques to examine the impact of demographic, academic, military factors, and the Summer Training Cruise Program on the service warfare community choices of members of the Naval Academy class of 2005. Through a review of the literature, a theoretical model was constructed to identify the variables that would predict individual service selection choices. By using the results from this study, Naval Academy staff can better understand the effect of the Summer Training Program on service selection at the United States Naval Academy. Previous research found significant correlations between different demographic, academic, and military factors and specific community service selection, but most of the research was limited in that the selected variables focused on only one service community. This chapter summarizes this study's findings, makes policy recommendations, and makes recommendations for future research.

B. CONCLUSIONS

The findings of this study are consistent with the theoretical model constructed from the literature review and support the hypothesis that STP has an effect on service selection at the United States Naval Academy. Of the ten regression models, academic performance was found to be significant consistently throughout the models, being significant in all but one of the models (final service selection Marine Corps Aviation). The regression models were used to determine the significance of the variables in the theoretical model in determining both tentative and final warfare service selection.

1. Tentative Service Selection

The main purpose of this study was to determine the impact of the STP on service assignment. STP was found to be significant in all of the tentative service selection choices.

Table 13. Summary Results of Regression Analysis for Tentative Service Selection

Variables	Marine Corps Aviation		Marine Corps Ground	Naval Aviation	Surface Warfare	Submarine Warfare
	4a	4b				
Gender	1.35	1.40	0.73	1.46	**0.37***	
Ethnicity	1.27	1.27	1.16	0.54	2.15	0.49
CAQPR	**0.42***	0.60	1.07	0.62	1.31	**5.62***
Technical Major	0.78	1.05	0.58	1.46	0.68	2.42
Varsity Sports	0.78	0.85	**2.25***	**0.40**	**2.34***	0.93
CMQPR	**7.14***	1.58	1.66	1.29	0.31	**0.06***
Prior Enlisted	**2.64***	**2.85****	0.90	**0.19**	1.13	2.43
STP	**0.10**	**11.71***	**53.34***	**32.08**	**12.85***	**18.64***
Constant	23.84	0.03	0.02	0.63	1.14	1.53
Chi-square	42.378	47.820	111.432	175.748	86.477	76.760
P	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Classification Rate	85.6%	85.4%	85.6%	82.0%	87.3%	91.5%
R^2	0.201	0.284	0.466	0.523	0.364	0.421

***** Sig. < 0.05; ****** Sig. < 0.07.

Academic and military performance, prior enlisted service, and participation in Leatherneck STP were significantly associated with tentative selection of Marine Corps Aviation. Individuals with prior enlisted service and higher military performance scores and lower academic performance scores who participated in Leatherneck were more likely to tentatively select Marine Aviation.

Academic and military performance, varsity athlete, technical major, and Leatherneck STP were significantly correlated with tentative selection of Marine Corps Ground. Varsity athletes with non-technical majors that have higher military performance scores and lower academic performance scores were more likely to tentatively select Marine Ground. Leatherneck STP had a strong positive association with tentative selection for Marine Corps Ground.

Academic performance, varsity athlete, prior enlisted, and Aviation STP were significantly correlated with tentative selection of Naval Aviation. Non-varsity athletes who were not prior enlisted and who had higher academic performance scores were more likely to tentatively select Naval Aviation. Individuals who participated in the Aviation STP were more likely to tentatively select Naval Aviation.

Academic and military performance, being male, being a varsity athlete, and participating in Surface STP were significantly correlated with tentative selection for Surface Warfare. Female varsity athletes with lower military performance scores and lower academic performance scores were more likely to tentatively select Surface Warfare. Surface STP participation had a high positive correlation with tentative selection of Surface Warfare.

Academic and military performance, technical major and Submarine STP were significantly correlated with tentative selection of Submarine Warfare. Individuals with technical majors with lower military performance scores and higher academic performance scores were more likely to tentatively select Submarine Warfare. Submarine STP participants had a high positive correlation with tentative selection of Submarine Warfare.

2. Final Service Selection

Once again, all of the STP variables were found to be significant in predicting service selection, both tentative and final. However, one difference is that the impact of STP participation on midshipmen actually increased for Leatherneck STP and Submarine STP from the tentative service selection to the final service selection. Leatherneck STP and Submarine STP provided a lasting impact on the career choices of the midshipmen, and the effect extended well into the academic year.

Table 14. Summary Results of Regression Analysis for Final Service Selection

Variables	Marine Corps Aviation		Marine Corps Ground	Naval Aviation	Surface Warfare	Submarine Warfare
	4a	4b				
Gender	**5.08***	**6.04***	**0.38***	1.54	**0.33***	
Ethnicity	1.63	1.54	0.71	**0.47***	**3.07***	0.47
CAQPR	0.69	1.08	0.45	0.52	1.86	**6.20***
Technical Major	0.68	0.90	**0.48****	1.53	0.83	2.05
Varsity Sports	0.67	0.68	**2.14***	**0.41***	**2.37***	1.07
CMQPR	7.13	1.77	2.79	1.64	0.13	0.10
Prior Enlisted	1.14	1.08	2.03	**0.24***	1.75	1.44
STP	0.14	**13.18***	**70.31***	**25.95***	**10.03***	**21.91***
Constant	0.00	0.01	0.01	0.47	5.77	0.26
Chi-square	21.117	45.083	140.969	160.421	90.404	90.404
P	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Classification Rate	87.6%%	87.6%	85.9%	81.1%	84.5%	84.5%
R^2	0.193	0.304	0.540	0.490	0.362	0.362

***** Sig. < 0.05; ****** Sig. < 0.07.

Military performance, gender, and Leatherneck STP were significantly correlated with final selection of Marine Corps Aviation. Males with higher military performance scores were more likely to service select Marine Aviation. Leatherneck STP had a positive influence on final selection Marine Corps Aviation but Aviation STP did not contribute to the prediction of final selection of Marine Aviation.

Academic and military performance, gender, technical major, varsity athlete, and Leatherneck STP were significantly correlated with final selection for Marine Corps Ground. Midshipmen with non-technical majors with higher military performance scores and lower academic performance scores were more likely to finally select Marine Corps Ground. Leatherneck STP had a strong positive effect on final selection of Marine Corps Ground.

Academic performance, ethnicity, varsity athlete, prior enlisted, and Aviation STP were significantly correlated with final selection of Naval Aviation. Minority, non-varsity athletes who were not prior enlisted, and who have higher academic performance scores, were more likely to tentatively select Naval Aviation. Aviation STP had a positive influence on service selecting Naval Aviation.

Academic and military performance, gender, ethnicity, varsity athlete, and Surface STP were significantly correlated with final selection of Surface Warfare. Female minority varsity athletes with lower military performance scores and lower academic performance scores were more likely to finally select Surface Warfare. Surface STP had a positive influence on midshipmen service selecting Surface Warfare.

Academic and military performance, technical major, and Submarine STP were significantly correlated with final selection of Submarine Warfare. Individuals with technical majors and with lower military performance scores and higher academic performance scores were more likely to final service selection of Submarine Warfare. Submarine STP had a positive influence on midshipmen final selection of Submarine Warfare.

C. POLICY RECOMMENDATIONS

As with any study, there must be caution used when making recommended policy changes. The Summer Training Program serves as a cornerstone in the development of the midshipmen. This study was designed to evaluate the impact of the STP on career choices of midshipmen. The STP is intended to prepare midshipmen for commissioned service by giving them additional time at sea and allowing them to participate in the duties and responsibilities of a junior officer. Through mere exposure the midshipmen gain valuable knowledge of and experience in the warfare community. And it is through this exposure to the warfare communities that each midshipman will assess first-hand how they perceive the environment of that community and evaluate the compatibility of their personality with that environment.

Currently, midshipmen choose which STP they would like to participate in. The reasons behind why midshipmen choose each STP vary widely. They may want to experience the community and ensure that their personality is compatible with the environment for future service selection choice or they may have no long term interest in selecting the community and want to just experience the warfare community for the short period of the STP. Some midshipmen may choose to participate in Submarine STP just

to get the once-in-a-lifetime experience of being on a submarine even though they may have all ready decided on service selecting Aviation.

Midshipmen are only required to participate in a minimum of one Surface STP prior to graduation and they are not required to experience any of the other STP. While the Surface STP will provide every midshipman with the knowledge and experience of being a junior officer, it does not give them the opportunity to experience all the warfare community first-hand to determine how their personalities match that community's environment. Without a first-hand experience of a warfare community the midshipman only has hearsay upon which to base their opinion of compatibility of their personality to job environment. Under the current system, a midshipman may not know what the environment of each warfare community is like. If the midshipman does not have the initial desire to find out more about a warfare community and experience it first-hand through the STP then that midshipman may never know if their personality matches that warfare community's environment. Maximizing the number of midshipmen who can experience each STP will allow for more midshipmen to make the most informed decision when it comes time for service selection. By exposing each midshipman to each community individual personalities can be better matched with the warfare community environment.

There have been difficulties in recent years reaching accession goals for midshipmen service selecting Submarine Warfare at the Academy. During the same time Marine Corps, Aviation, and Surface Warfare communities have been meeting their accession goals. The first class STP provides an excellent opportunity for the Fleet to influence midshipmen in service selecting their communities. There needs to be an in-depth review of all the Summer Training Programs to find ways to increase the positive influence on service selection. The review of the programs should include why the Leatherneck STP has such a lasting influence on the midshipmen during service selection.

The perception of each midshipman during the STP will ultimately reflect their service selection choice. This perception will be based on the interaction the midshipman has with the ship's crew and their running mate. At the end of each summer, the

midshipmen complete a voluntary survey called the End of Summer Training Survey. Several of the questions that were pertinent to this study are included in Appendix B. By using the feedback from this survey, the Naval Academy can ensure that midshipmen are receiving the maximum training value available from the STP. In the 2005 STP, 21 percent of the midshipmen reported that they did not agree that the ship made an effort to make the summer cruise worthwhile. This is the impression that the midshipmen are taking from the cruise and which they are using to make their service selection. Also, 39 percent of the midshipmen reported the moral of the ship or squadron as fair or worse. This is possibly the only opportunity to impress midshipmen and yet over a third view the moral as low after their STP. This is the time that the ships and the squadrons have to create a positive atmosphere in order to recruit some of the best the Navy has to offer. With anywhere from a quarter to a third of the midshipmen returning from STP with negative impressions of their experiences, the communities are faced with a difficult challenge. The Navy needs to ensure that only the best of the ships and squadrons are getting the midshipmen during the STP and that only the best officers are selected as the midshipmen training officers. The Navy needs to emphases the importance of the STP to the Fleet and ensure that ship crews are putting forth as much effort into the STP as they are all the other operations.

The Naval Academy needs to work closely with the Fleet to ensure the midshipmen are receiving the proper training. A feedback method needs to be in place to enable the Fleet to provide ways of improving the STP in the form of a Lessons Learned Report. Also there needs to be more emphasis on fitness reports on each midshipman that are available in the Summer Training Manual being filled out and returned to the Academy. This will provide feedback on the effort that the midshipmen make during the STP and ensure that they are putting forth the effort that is required to make the STP a successful evolution.

D. RECOMMENDATIONS FOR FUTURE RESEARCH

There are many factors during the STP that will effect the perception the midshipmen have on their experience during the training period. The End of Summer Training Survey was updated this year to better reflect the experiences the midshipmen

have during the STP. This data should be used in future research to allow a more in-depth look at what makes each of the STPs effective or ineffective. There is much more to evaluate in the models than solely whether the midshipman participated in the STP or not. The STP is a different experience for each midshipman. Appendix B. has several of the questions that are included in the End of Summer Survey and that could be used to not only account for whether the midshipman participated in the STP but also the nature of the experience. Future research could determine if the quality of the STP influences the service selection. Such factors as meeting with the Commanding Officer, ships moral, running mate taking active role, and whether the midshipman views the cruise as a professionally enhancing experience will all affect the perception the midshipmen has of the STP.

Another option for future research is to broaden the scope of this study to include input from the Fleet on the midshipmen's performance during the STP. Currently only the midshipmen are providing feedback from their experiences during the STP. Including the fitness reports on the midshipmen from the Fleet in the data file will allow for a view of how the ships and squadrons perceive the individual midshipman's effort during the STP. With input from the Fleet, the STP can ensure a 360 degree evaluation of the STP.

Future research should also investigate the factors that influence midshipmen between tentative service selection, final service selection, and what the midshipmen's actual service assignment is. There are variables that may diminish the effect of STP between tentative and final service selection. These variables do not affect Leatherneck STP and Submarine STP in this study but the effect of Aviation STP and Surface STP both diminished during the time between tentative service selection and final service selection. There are also other variables that this study did not account for that may affect actual service assignment. Future research should also control for these variables, such as medical disqualifications and academic disqualifications.

APPENDIX A: DESCIPTIVE STATISTICS

Table 15. Demographic factors of the sample.

Variable	Percentage	Mean (Std Dev.)
Gender		
Men	82.3	
Women	17.7	
Ethnicity		
Caucasian	83.4	
Other	16.6	
-African American	5.4	
-Asian American	2.5	
-Hispanic	6.5	
-Native American	1.4	
-Native Hawaiian	.8	

N = 355 (From: Office of Institutional Research, Planning, and Assessment (IR))

Table 16. Academic factors of the sample.

Variable	Percentage	Mean (Std Dev.)
CAQPR		2.98 (.476)
Major Code		
Technical Major	54.9	
Non-Technical Major	45.1	
Varsity Athlete		
Yes	47.0	
No	53.0	
SAT Verbal		651.27 (60.154)
SAT Math		669.52 (61.470)

N = 355 (From: Office of Institutional Research, Planning, and Assessment (IR))

Table 17. Military factors of the sample.

Variable	Percentage	Mean (Std Dev.)
MCQPR		3.10 (.324)
Prior Enlisted		
Yes	7.9	
No	92.1	
Father Prior Service		
Yes	40.6	
No	59.4	

N = 355 (From: Office of Institutional Research, Planning, and Assessment (IR))

Table 18. Initial Service Selection and Summer Training Program Participation.

Variable	Percentage	Mean (Std Dev.)
Initial Service Selection		
USMC Aviation	14.1	
USMC Ground	18.0	
Naval Aviation	39.4	
Submarine	8.7	
SWO	15.2	
Other	4.6	
Summer Training Program		
Aviation	38.0	
Leatherneck	35.8	
Submarine	8.7	
Surface	20.8	

N = 355 (From: Professional Program (ProDev))

APPENDIX B: END OF SUMMER TRAINING SURVEY ANALYSES

Table 19. The crew of the boat made a good faith effort to make my cruise worthwhile.

Variable Number (Percent)	Aviation Cruise	Submarine Cruise	Surface Cruise	Total
No opinion	18 (12.5)	0 (0)	5 (1.2)	23 (3.5)
Strongly agree	72 (50.0)	39 (36.4)	124 (30.0)	235 (35.4)
Agree	40 (27.8)	51 (47.7)	175 (42.4)	266 (40.1)
Neither agree nor disagree	9 (6.3)	10 (9.3)	60 (14.5)	79 (11.9)
Disagree	1 (0.7)	4 (3.7)	34 (8.2)	39 (5.9)
Strongly disagree	4 (2.8)	3 (2.8)	15 (3.6)	22 (3.3)
Total	144 (100)	107 (100)	413 (100)	664 (100)

N = 664 (From: Office of Institutional Research, Planning, and Assessment (IR))

Table 20. My running mate took an active role in my training.

Variable Number (Percent)	Aviation Cruise	Submarine Cruise	Surface Cruise	Total
No opinion	19 (13.1)	8 (7.4)	4 (1.0)	31 (4.7)
Strongly agree	48 (33.1)	19 (17.6)	118 (28.6)	185 (27.8)
Agree	50 (34.5)	49(47.4)	176 (42.6)	275 (41.3)
Neither agree nor disagree	12 (8.3)	19 (17.6)	59 (14.3)	90 (13.5)
Disagree	5 (3.4)	6 (5.6)	31 (7.5)	42 (6.3)
Strongly disagree	11 (7.6)	7 (6.5)	25 (6.1)	43 (6.5)
Total	145 (100)	108 (100)	413 (100)	666 (100)

N = 666 (From: Office of Institutional Research, Planning, and Assessment (IR))

Table 21. Rate the morale of the boat on your cruise.

Variable Number (Percent)	Aviation Cruise	Submarine Cruise	Surface Cruise	Total
No opinion	3 (2.1)	3 (2.8)	3 (0.7)	9 (1.3)
Terrible	N/A	N/A	27 (6.5)	27 (4.0)
Poor	1 (0.7)	5 (4.6)	60 (14.5)	66 (10.0)
Fair	8 (5.5)	15(13.9)	134 (32.4)	157 (23.5)
Good	64 (43.8)	49 (45.4)	150 (36.3)	263 (39.4)
Outstanding	70 (47.9)	36 (33.3)	39 (9.4)	145 (21.7)
Total	146 (100)	108 (100)	413 (100)	667 (100)

N = 667 (From: Office of Institutional Research, Planning, and Assessment (IR))

Table 22. I understood the mission of the unit to which I was assigned.

Variable Number (Percent)	Aviation Cruise	Submarine Cruise	Surface Cruise	Total
No opinion	2 (1.4)	N/A	10 (2.4)	12 (1.8)
Strongly agree	72 (49.3)	47 (43.5)	97 (23.5)	216 (32.4)
Agree	65 (44.5)	56 (51.9)	259 (62.7)	380 (57.0)
Neither agree nor disagree	N/A	2 (1.9)	29 (7.0)	31 (4.6)
Disagree	N/A	2 (1.9)	13 (3.1)	15 (2.2)
Strongly disagree	7 (4.8)	1 (0.9)	5 (1.2)	13 (1.9)
Total	146 (100)	108 (100)	413 (100)	667 (100)

N = 667 (From: Office of Institutional Research, Planning, and Assessment (IR))

Table 23. How often did you meet with the commanding officer?

Variable Number (Percent)	Aviation Cruise	Submarine Cruise	Surface Cruise	Total
No Opinion	N/A	N/A	3 (0.7)	3 (0.4)
Regularly	13 (9.0)	33 (30.6)	20 (4.9)	66 (9.9)
Often	14 (9.7)	18 (16.7)	49 (11.9)	81 (12.2)
Occasionally	79 (54.9)	47 (43.5)	200 (48.5)	326 (49.1)
Rarely	35 (4.5)	10 (9.3)	106 (25.7)	151 (22.7)
Never	3 (0.4)	N/A	34 (8.3)	37 (5.6)
Total	144 (100)	108 (100)	412 (100)	664 (100)

N = 664 (From: Office of Institutional Research, Planning, and Assessment (IR))

Table 24. This program was a professionally enhancing experience.

Variable Number (Percent)	Aviation Cruise	Submarine Cruise	Surface Cruise	Total
No opinion	2 (1.4)	3 (2.8)	19 (4.6)	24 (3.6)
I had a lot of fun, but did not learn anything	1 (0.7)	N/A	16 (3.9)	17 (2.6)
Horrible experience	2 (1.4)	1 (0.9)	18 (4.4)	21 (3.2)
Poor experience	4 (2.7)	3 (2.8)	37 (9.0)	44 (6.6)
Average experience	6 (4.1)	17 (15.9)	133 (32.4)	156 (23.5)
Good experience	41 (28.1)	46 (43.0)	126 (30.7)	213 (32.1)
Great experience	90 (61.6)	37 (34.6)	62 (15.1)	189 (28.5)
Total	146 (100)	107 (100)	411 (100)	664 (100)

N = 664 (From: Office of Institutional Research, Planning, and Assessment (IR))

Table 25. I want to select aviation/submarine/surface based on my experiences during summer cruise.

Variable Number (Percent)	Aviation Cruise	Submarine Cruise	Surface Cruise	Total
No opinion	8 (5.5)	4 (3.7)	24 (5.8)	36 (5.4)
Definitely not	2 (1.4)	16 (14.8)	160 (38.7)	178 (26.7)
Probably not	12 (8.2)	20 (18.5)	109 (26.4)	141 (21.1)
Not sure	7 (4.8)	16 (14.8)	47 (11.4)	70 (10.5)
Yes, probably	11 (7.5)	22 (20.4)	42 (10.2)	75 (11.2)
Yes, definitely	106 (72.6)	30 (27.8)	31 (7.5)	167 (25.0)
Total	146 (100)	108 (100)	413 (100)	667 (100)

N = 667 (From: Office of Institutional Research, Planning, and Assessment (IR))

Table 26. Rate your involvement in the daily shipboard routine.

Variable Number (Percent)	Aviation Cruise	Submarine Cruise	Surface Cruise	Total
No opinion	14 (9.8)	N/A	7 (1.7)	21 (3.2)
Very limited	13 (9.1)	10 (9.3)	44 (10.7)	67 (10.1)
Limited	14 (9.8)	15 (13.9)	53 (12.8)	82 (12.3)
Adequate	41 (28.7)	35 (32.4)	153 (37.0)	229 (34.5)
A great deal	49 (34.3)	40 (37.0)	99 (24.0)	188 (28.3)
Extensive	12 (8.4)	8 (7.4)	57 (13.8)	77 (11.6)
Total	146 (100)	108 (100)	413 (100)	664 (100)

N = 664 (From: Office of Institutional Research, Planning, and Assessment (IR))

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